



UNL2993.ST25.txt
SEQUENCE LISTING

RECEIVED

MAY 29 2003

TECH CENTER 1600/2900

<110> Farrand, Stephen
Staswick, Paul E
Clemente, Thomas E

<120> COUNTER SELECTION STRATEGY FOR GRAM-NEGATIVE BACTERIA

<130> UNL 2993.1

<140> US 09/924,101

<141> 2001-08-07

<160> 9

<170> PatentIn version 3.1

<210> 1

<211> 7477

<212> DNA

<213> Escherichia coli

<400> 1
gacaccatcg aatggcgcaa aacctttcgc ggtatggcat gatagcgccc ggaagagagt 60
caattcaggg tggatgaatgt gaaaccagta acgttatacg atgtcgcaga gtatgccggt 120
gtctcttatac agaccgtttc ccgcgtggtg aaccaggcca gccacgtttc tgcgaaaacg 180
cgggaaaaaag tggaagcggc gatggcggag ctgaattaca ttcccaaccg cgtggcacaa 240
caactggcgg gcaaacagtc gttgctgatt ggcgttgcca cctccagtct ggccctgcac 300
gcgccgtcgc aaattgtcgc ggcgattaaa tctcgcgccg atcaactggg tgccagcgtg 360
gtggtgtcga tggtagaacg aagcggcgtc gaagcctgta aagcggcggg gcacaatctt 420
ctcgcgcaac gcgtcagtgg gctgatcatt aactatccgc tggatgacca ggatgccatt 480
gctgtggaag ctgcctgcac taatgttccg gcgttatattc ttgatgtctc tgaccagaca 540

UNL2993.ST25.txt

| | | | | | | | |
|------------|------------|-------------|-------------|------------|-------------|------------|------|
| cccatcaaca | gtattat | ctcccatgaa | gacgggtacgc | gactggg | cggt | ggagcatctg | 600 |
| gtcgcattgg | gtcaccagca | aatcgcgctg | ttagcggg | cc | cattaagttc | tgtctcggcg | 660 |
| cgtctgcgtc | tggttggtg | gcataaatat | ctcactcgca | atcaaattca | gccgatagcg | | 720 |
| gaacgggaag | gcgactggag | tgccatgtcc | ggttttcaac | aaaccatgca | aatgctgaat | | 780 |
| gagggcatcg | ttcccactgc | gatgctgggt | gccaacgatc | agatggcgct | ggg | cgcaatg | 840 |
| cgcgccatta | ccgagtccg | gctgcgcgtt | ggtgcggata | tctcggtagt | gggatacgac | | 900 |
| gataccgaag | acagctcatg | ttatatccc | cggtcaacca | ccatcaaaca | ggat | tttcgc | 960 |
| ctgctggggc | aaaccagcgt | ggaccgcttg | ctgcaactct | ctcagggcca | ggcgg | tgaag | 1020 |
| ggcaatcagc | tgttgcccgt | ctcactgggtg | aaaagaaaa | ccaccctggc | gccaatacg | | 1080 |
| caaaccgcct | ctccccgcgc | gttggccgat | tcattaatgc | agctggcacg | acagg | tttc | 1140 |
| cgactggaaa | gcgggcagtg | agcgcaacgc | aattaatgtg | agttagctca | ctcattaggc | | 1200 |
| accccaggct | ttacacttta | tgcttccggc | tcgtatgttg | tgtggaattg | tgagcggata | | 1260 |
| acaatttcac | acaggaaaca | gctatgacca | tgattacgga | ttcactggcc | gtcgttttac | | 1320 |
| aacgtcgtga | ctgggaaaac | cctggcggtta | cccaacttaa | tcgccttgca | gcacatcccc | | 1380 |
| ctttcgccag | ctggcgtaat | agcgaagagg | cccgcaccga | tcgcccttcc | caacagttgc | | 1440 |
| gcagcctgaa | tggcgaatgg | cgctttgcct | ggtttccggc | accagaagcg | gtgccgga | | 1500 |
| gctggctgga | gtgcgatctt | cctgaggccg | atactgtcgt | cgtcccctca | aactggcaga | | 1560 |
| tgcacggtta | cgatgcgccc | atctacacca | acgtaacctta | tcccattacg | gtcaatccgc | | 1620 |
| cgtttgttcc | cacggagaat | ccgacggggt | gttactcgct | cacattta | gttgatgaaa | | 1680 |
| gctggctaca | ggaaggccag | acgcgaatta | tttttgatgg | cgttaactcg | gcgtttcatc | | 1740 |
| tgtggtgcaa | cgggcgctgg | gtcgggttacg | gccaggacag | tcgtttgccg | tctgaatttg | | 1800 |
| acctgagcgc | at | tttttacgc | gccggagaaa | accgcctcgc | ggtgatgggtg | ctgcgttgga | 1860 |
| gtgacggcag | ttatctggaa | gatcaggata | tgtggcggat | gagcggcatt | ttccgtgacg | | 1920 |
| tctcgttgct | gcataaaccg | actacacaaa | tcagcgattt | ccatgttgcc | actcgcttta | | 1980 |
| atgatgat | ttt | cagccgcgct | gtactggagg | ctgaagttca | gatgtgcggc | gagttgcgtg | 2040 |
| actacctacg | ggtaacagtt | tctttatggc | agggtgaaac | gcaggtcgcc | agcggcaccg | | 2100 |
| cgcctttcgg | cggtgaaatt | atcgatgagc | gtggtgggtta | tgccgatcgc | gtcacactac | | 2160 |
| gtctgaacgt | cga | aaactgtgga | gcgccgaaat | cccgaatctc | tatcgtgcgg | | 2220 |
| tggttgaa | act | gcacaccgcc | gacggcacgc | tgattgaagc | agaagcctgc | gatgtcggtt | 2280 |
| tccgcgaggt | g | cggttgaa | aatgggtctgc | tgctgctgaa | cggcaagccg | ttgctgattc | 2340 |
| gaggcgttaa | ccgtcacgag | catcatcctc | tgcatgggtca | ggtc | catggat | gagcagacga | 2400 |
| tggtgcagga | tatcctgctg | atgaagcaga | acaacttta | cgccgtgcgc | tgttcgcatt | | 2460 |

UNL2993.ST25.txt

| | | | | | | |
|------------|------------|------------|------------|-------------|------------|------|
| atccgaacca | tccgctgtgg | tacacgctgt | gcgaccgcta | cggcctgtat | gtggtggatg | 2520 |
| aagccaatat | tgaaaccac | ggcatggtgc | caatgaatcg | tctgaccgat | gatccgcgct | 2580 |
| ggctaccggc | gatgagcgaa | cgcgtaacgc | gaatggtgca | gcgcgatcgt | aatcacccga | 2640 |
| gtgtgatcat | ctggtcgctg | gggaatgaat | caggccacgg | cgctaatac | gacgcgctgt | 2700 |
| atcgctggat | caaactctgc | gatccttccc | gcccggtgca | gtatgaaggc | ggcggagccg | 2760 |
| acaccacggc | caccgatatt | atttgcccga | tgtacgcgcg | cgtggatgaa | gaccagccct | 2820 |
| tcccggctgt | gccgaaatgg | tccatcaaaa | aatggctttc | gctacctgga | gagacgcgcc | 2880 |
| cgctgatcct | ttgcgaatac | gcccacgcga | tgggtaacag | tcttggcggg | ttcgctaaat | 2940 |
| actggcaggc | gtttcgtcag | tatccccgtt | tacagggcgg | cttcgtctgg | gactgggtgg | 3000 |
| atcagtcgct | gattaaatat | gatgaaaacg | gcaaccctg | gtcggcttac | ggcggtgatt | 3060 |
| ttggcgatac | gccgaacgat | cgccagttct | gtatgaacgg | tctggtcttt | gccgaccgca | 3120 |
| cgccgcatcc | agcgctgacg | gaagcaaaac | accagcagca | gtttttccag | ttccgtttat | 3180 |
| ccgggcaaac | catcgaagtg | accagcgaat | acctgttccg | tcatagcgat | aacgagctcc | 3240 |
| tgacttgat | ggtggcgctg | gatggtaagc | cgctggcaag | cggtgaagtg | cctctggatg | 3300 |
| tcgctccaca | aggtaaacag | ttgattgaac | tgcctgaact | accgcagccg | gagagcgccg | 3360 |
| ggcaactctg | gctcacagta | cgcgtagtgc | aaccgaacgc | gaccgcatgg | tcagaagccg | 3420 |
| ggcacatcag | cgcctggcag | cagtggcgtc | tggcggaaaa | cctcagtgtg | acgctccccg | 3480 |
| ccgcgtccca | cgccatcccc | catctgacca | ccagcgaaat | ggatttttgc | atcgagctgg | 3540 |
| gtaataagcg | ttggcaatth | aaccgccagt | caggctttct | ttcacagatg | tggattggcg | 3600 |
| ataaaaaaca | actgctgacg | ccgctgcgcg | atcagttcac | ccgtgcaccg | ctggataacg | 3660 |
| acattggcgt | aagtgaagcg | acccgcattg | accctaacgc | ctgggtcgaa | cgctggaagg | 3720 |
| cggcgggcca | ttaccaggcc | gaagcagcgt | tgttgacgtg | cacggcagat | acacttgctg | 3780 |
| atgcggtgct | gattacgacc | gctcacgcgt | ggcagcatca | ggggaaaacc | ttatttatca | 3840 |
| gccggaaaac | ctaccggatt | gatggtagt | gtcaaatggc | gattaccgtt | gatgttgaag | 3900 |
| tggcgagcga | tacaccgat | ccggcgcgga | ttggcctgaa | ctgccagctg | gcgcaggtag | 3960 |
| cagagcgggt | aaactggctc | ggattagggc | cgcaagaaaa | ctatccccgac | cgccttactg | 4020 |
| ccgcctgttt | tgaccgctgg | gatctgccat | tgtcagacat | gtataccccg | tacgtcttcc | 4080 |
| cgagcgaaaa | cggctctgcg | tgcgggacgc | gcgaattgaa | ttatggcca | caccagtggc | 4140 |
| gcggcgactt | ccagttcaac | atcagccgct | acagtcaaca | gcaactgatg | gaaaccagcc | 4200 |
| atcgccatct | gctgcacgcg | gaagaaggca | catggctgaa | tatcgacggg | ttccatatgg | 4260 |
| ggattggtgg | cgacgactcc | tggagcccgt | cagtatcggc | ggaattccag | ctgagcgccg | 4320 |

UNL2993.ST25.txt

gtcgctacca ttaccagttg gtctgggtgtc aaaaataata ataaccgggc aggccatgtc 4380
 tgcccgtatt tcgcgtaagg aaatccatta tgtactatct aaaaaacaca aacttttggg 4440
 tggtcgggtt attctttttc ttttactttt ttatcatggg agcctacttc ccgtttttcc 4500
 cgatttggtt acatgacatc aaccatatca gcaaaagtga tacgggtatt atttttgccg 4560
 ctatttctct gttctcgcta ttattccaac cgctgtttgg tctgctttct gacaaactcg 4620
 ggctgcgcaa atacctgctg tggattatta ccggcatgtt agtgatgttt gcgccgttct 4680
 ttatttttat ctctgggcca ctgttacaat acaacatttt agtaggatcg attgttgggtg 4740
 gtatttatct aggcctttgt tttaacgccg gtgcgccagc agtagaggca tttattgaga 4800
 aagtcagccg tcgcagtaat ttcgaatttg gtcgcgcgcg gatgtttggc tgtgttggct 4860
 gggcgctgtg tgcctcgatt gtcggcatca tggtccaccat caataatcag tttgttttct 4920
 ggctgggctc tggctgtgca ctcatcctcg ccgttttact ctttttcgcc aaaacggatg 4980
 cgccctcttc tgccacgggt gccaatgcgg taggtgccaa ccattcggca tttagcctta 5040
 agctggcact ggaactgttc agacagccaa aactgtgggt tttgtcactg tatgttattg 5100
 gcgtttcctg cacctacgat gtttttgacc aacagtttgc taatttcttt acttcgttct 5160
 ttgctaccgg tgaacagggt acgcgggtat ttggctacgt aacgacaatg ggcgaattac 5220
 ttaacgcctc gattatgttc tttgcgccac tgatcattaa tcgcatcggg gggaaaaacg 5280
 ccctgctgct ggctggcact attatgtctg tacgtattat tggctcatcg ttcgccacct 5340
 cagcgctgga agtggttatt ctgaaaacgc tgcatatgtt tgaagtaccg ttcctgctgg 5400
 tgggctgctt taaatatatt accagccagt ttgaagtgcg tttttcagcg acgatttatc 5460
 tggctctgtt ctgcttcttt aagcaactgg cgatgatttt tatgtctgta ctggcgggca 5520
 atatgtatga aagcatcggg ttccaggggc cttatctggg gctgggtctg gtggcgctgg 5580
 gcttcacctt aatttccgtg ttcacgctta gcggccccgg cccgctttcc ctgctgcgtc 5640
 gtcagggtgaa tgaagtcgct taagcaatca atgtcggatg cggcgcgacg cttatccgac 5700
 caacatatca taacggagt atcgattga acatgccaat gaccgaaaga ataagagcag 5760
 gcaagctatt taccgatatg tgcgaaggct taccggaaaa aagacttcgt gggaaaaacgt 5820
 taatgtatga gtttaatcac tcgcatccat cagaagttga aaaaagagaa agcctgatta 5880
 aagaaatgtt tgccacggta ggggaaaacg cctgggtaga accgcctgtc tatttctctt 5940
 acggttccaa catccatata ggccgcaatt tttatgcaaa tttcaattta accattgtcg 6000
 atgactacac ggtaacaatc ggtgataacg tactgattgc acccaacgtt actctttccg 6060
 ttacgggaca ccctgtacac catgaattga gaaaaaacgg cgagatgtac tcttttccga 6120
 taacgattgg caataacgtc tggatcgga gtcattgtgt tattaatcca ggcgtcacca 6180
 tcggggataa ttctgttatt ggcgcgggta gtatcgtcac aaaagacatt ccaccaaacg 6240

UNL2993.ST25.txt

| | | | | | | |
|------------|------------|-------------|-------------|-------------|------------|------|
| tcgtggcggc | tggcgttcct | tgtcggggtta | ttcgcgaaat | aaacgaccgg | gataagcact | 6300 |
| attatttcaa | agattataaa | gttgaatcgt | cagttttaa | tataaaaaatt | gcctgatacg | 6360 |
| ctgcgcttat | caggcctaca | agttcagcga | tctacattag | ccgcatccgg | catgaacaaa | 6420 |
| gcgcaggaac | aagcgtcgca | tcatgcctct | ttgaccacaca | gctgcggaaa | acgtactggt | 6480 |
| gcaaaacgca | gggttatgat | catcagccca | acgacgcaca | gcgcatgaaa | tgcccagttc | 6540 |
| atcaggtaat | tgccgctgat | actacgcagc | acgccagaaa | accacggggc | aagcccggcg | 6600 |
| atgataaaac | cgattccctg | cataaacgcc | accagcttgc | cagcaatagc | cggttgacac | 6660 |
| gagtgatcga | gcgccagcag | caaacagagc | ggaaacgcgc | cgcccagacc | taaccacac | 6720 |
| accatcgccc | acaataccgg | caattgcatc | ggcagccaga | taaagccgca | gaaccccacc | 6780 |
| agttgtaaca | ccagcgccag | cattaacagt | ttgcgccgat | cctgatggcg | agccatagca | 6840 |
| ggcatcagca | aagctcctgc | ggcttgccca | agcgtcatca | atgccagtaa | ggaaccgctg | 6900 |
| tactgcgcgc | tggcaccaat | ctcaatatag | aaagcgggta | accaggcaat | caggctggcg | 6960 |
| taaccgccgt | taatcagacc | gaagtaaaca | cccagcgctc | acgcgcgggg | agtgaatacc | 7020 |
| acgcgaaccg | gagtggttgt | tgtcttgtgg | gaagaggcga | cctcgcgggc | gctttgccac | 7080 |
| caccaggcaa | agagcgcaac | aacggcaggc | agcgccacca | ggcgagtgtt | tgataccagg | 7140 |
| tttcgctatg | ttgaactaac | cagggcggtta | tggcggcacc | aagcccaccg | ccgcccacac | 7200 |
| gagccgcgga | ccacagcccc | atcaccagtg | gcgtgcgctg | ctgaaaccgc | cgtttaatac | 7260 |
| ccgaagcatc | accgcctgaa | tgatgccgat | ccccacccca | ccaagcagtg | cgctgctaag | 7320 |
| cagcagcgca | ctttgcgggt | aaagctcacg | catcaatgca | ccgacggcaa | tcagcaacag | 7380 |
| actgatggcg | acactgcgac | gttcgctgac | atgctgatga | agccagcttc | cggccagcg | 7440 |
| cagccccccc | atggtaacca | ccggcagagc | ggtcgac | | | 7477 |

<210> 2

<211> 6610

<212> DNA

<213> Agrobacterium tumefaciens

<400> 2

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| accgtgccc | cttcataaca | tttgaacatc | gccgtatgcc | tattactgcc | cttgtagcat | 60 |
| gggcggcaac | gccttatccc | taagctggaa | ggcaagaatt | ccaagatagc | cagatctgca | 120 |
| atagacccgc | ttcacatggt | gatcatctgt | tcaagactga | tgaaatcgaa | gcaaagaagg | 180 |
| tcctcaaaac | ttggccgtaa | aacggcgaca | gctggacaca | ctgtatagcc | gaccgcacga | 240 |

UNL2993.ST25.txt

ggattgaagg atgctgtctgg ctactggag gctaattggcc acggatcgaa cgtttcgccc 300
 gggcacggaa gccttcgtat tgtgagaagg ttaaattggat cacgagttcg agacagccat 360
 tgttggcggc ggtgtagtgg gcgccgaat tggatacggg ttagccaagt tggggcgccg 420
 ggtgatcatc atcgatggcg cggacgatgc gctgcgtgcg tcccgaacga atttcggcct 480
 gatctgggtt cagggcaagg gcgacgaata tcctgcatat catcgcatca cgcggaag 540
 cgctgagctg tggcccgggt ttgcatccga gttgaaagaa ctgacgggtg tcgacgtgga 600
 gtaccgccgc aacgggtggt tgctcttctg tgcgtcggaa gctcaggcag aagaagaaaa 660
 agcgatcggc gagaagatgg ctgccattca tcctgactat gcgttcgaga tgctggagcg 720
 ctgcgcatga cgcgtgctt cgcacatccg tctcgggccg aagggtgtgtt cagcgtcgtt 780
 cagtcatatg gacgggtgac tcaatcctct gctggctcct cgcgctatgc tggacggatt 840
 tgtgcgcctc ggtggaacct tgatgacggg cgaacacgtc gacagcatcg cgccacgct 900
 tggcggcttc cgactggcga cggatggcct cacgatagag gcggagcggg tgattattgc 960
 agcgggaaat gactccatgg cttttgcaa gagcctggac cttccgcttc tcctcgtccc 1020
 ggaaaagggg cagcttctca tcacggaacg ggtcgccccg gttttccctt acgccgccag 1080
 cggtatccgt cagaccatga cgggcacgtt tcagctcggc gttacgaatg aacgtgtggg 1140
 ccggtctacc gacgtgacag ctgccggcgc acgtcatatc gccaatcgcg cgatcaatgt 1200
 gatgcctgac gtcggcgcggt tgcgtgtcat acggcagtg gcgggactac gcgtgctgac 1260
 cccggacggg gtgcctgtct acgatcgggtc gcggcgatac ccaggtatcc acgtcgtcgc 1320
 atgccattcc ggcgtcacc ttgccgtct gcatgcaggt cttttgccg aatggttggc 1380
 agccggtgga agggagccat cctacgacgc tttccgaggc agcagattca agatggggat 1440
 cgcggcgtga cgagtgaat tctctttccc tccggccaag ccgtggaaat caccgtcgac 1500
 ggtcgtctcg tgaccgctcg cgatggagag cctctggccg ccgtctttct gcgtctggac 1560
 gacatccata cgcgacctc ctttccttc gccagcccc gggcgcccta ctgcatgatg 1620
 ggcgtctgtt tcgaatgtgt cgtgcacgtc gaagacatcg gcacgatccg aagctgtcag 1680
 caaacggttc acgccggcat gagggtcgaa cgccatgacc atccgaagag gctgaaatga 1740
 accatcattc gagcgccgac ctgttgatcg tcggagccgg ccccgctggc atggccgcag 1800
 cgaggcgcg cgtacgcggc ggtctgtccg tcacgtgtgt ggattcgaa tcacagcctg 1860
 gaggtcagat ctggcgcaat gccggccgca acgctacaag cccaatcata aacattctgg 1920
 gggcggaata tcgacgcggc gtccggcaag tcgaagcatt tctggcctgt ggcgccgact 1980
 acatcccga tgctcaggta agcaggctca gccagggttg gacggtggaa tacgtctggg 2040
 gcggagaaat tcgctccgtc aggggacggc atctcttgct cgctacgggc gcacaggaac 2100
 gcccggttcc gttcaccggc tggacgctac ccggcgtcat gacggttggc gccgcacaga 2160

UNL2993.ST25.txt

| | |
|--|------|
| tcctgttgaa aacggcaggt cagttgccga gaggccccgt tgccgtcgtc ggcagcgggc | 2220 |
| ctctcccgt gctatatatg cagcagatgc ggctcgcggg ggcaaagccg gtcgctcatc | 2280 |
| tcgatacgac ccctcggggt ctcacagacc gttcgtgctg cggttttcgc ggagcactgc | 2340 |
| aggagcctgg ccaaatcctg aaagggattg cctggttacc gcagttcagt ggcgttcggc | 2400 |
| acgtacgcaa cgtggtcaaa atcagcgcca agggaagcgg acgactggaa actgtacggt | 2460 |
| tcgaaacttc aagcggaagg tccgacagat tggagggtcaa atcccttctt gttcacgagg | 2520 |
| ggctggtgcc aagccatcag ttggcgggtg cgcccggcgc gcaactgatg tgggatgtcg | 2580 |
| gccagtcagc gttccggctt gagcgcgacg agtggatgaa cgaggtccg gacggactat | 2640 |
| acatagccgg ggacggtgct cggatcggag gcgccgtcaa tgccgagatc gaggagagaga | 2700 |
| tcgccgcgat cggcgtcctt cttcgtgacg gcgccctgac ggccgctcag gcggataccg | 2760 |
| agacaaaacc gctgagagcg cagcatggcc ggcaaaagtc gttccggcga tttctggatg | 2820 |
| gggcctaccc gccgaatatt gcgcggaccc cgccggacga cgcaacgatc gtctgccggt | 2880 |
| gcgaggagtt gagcgcgggc gtgttgaggg aagctgctgt ccgtggcgct tgccgagggc | 2940 |
| ccaaccagct gaagagtttt acgcgcgcgg gcatgggtcc ctgtcagggg aggcagtgcg | 3000 |
| gctacccggt gcacgagctg gtgaagtcag tcgccggctg accgccggcg aggtcggcct | 3060 |
| gttcaatccg cggcctccct tcgttccatt aacggtgtcg atgctggcag ctcagcagggc | 3120 |
| cgaggaagtc gtttcagcgt cgacacatga gtgatcgtt gccatcgcg actgtgcggg | 3180 |
| gaccaaagtt gcagtcaaga aatgaacggt gctggcgaaa tcaacgctt gcggcatcgc | 3240 |
| aaggagaatg agttgaagac gtgccaaatc ctgggagctc ccgttcaaag tggcgcatcc | 3300 |
| caaccgggat gcctgatggg acctgatgct tttcggactg ccggcttgac gcaagttctg | 3360 |
| acggagctgg gctgggctgt caccgatctc ggagatgcga caccaacggt cgaacccgaa | 3420 |
| ctcagccacc ccaattccgc ggtgaagaac ctcgatgctc tgggtgggatg gacgcgcagt | 3480 |
| ctgtcccaga aagctctgga gatggcccg agctgcgatc ttccggtctt tctcggcggc | 3540 |
| gatcactcga tgtctgctgg caccgtctca ggtgtggccc aacgtacagc cgagcttggc | 3600 |
| aaggagcaat tcgtcctttg gctggacgcg catacggacc tgcataccct ccacacgacc | 3660 |
| gcgagcggca atctccacg cacacccgta gcctactata cgggccaatc cggcttcgaa | 3720 |
| gggctgccgc cgctggccgc gcctgtaaat ccccgaacg tatccatgat ggggattcgc | 3780 |
| tcagtcgatc cggaagagag gcgacgggtt gccgagatcg gtgttcaagt cgctgacatg | 3840 |
| cggtttctgg acgaacaagg ggtcgtacgc ccgctcgaag cttttcttga ccgcgtgagt | 3900 |
| aaggtcagcg gcagattgca cgtcagcctt gatgtcgatt tcctcgatcc cgcgatcgcg | 3960 |
| ccagcagtg gcacgaccgt tcctggcgga gcgaccttcc gggaagcgca cctcatcatg | 4020 |

UNL2993.ST25.txt

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|------|
| gagatgctcc | atgacagcgg | ccttgtcacg | tcactcgacc | tggcggagct | caatccgttt | 4080 |
| ctggatgaga | gggggcgcac | tgcccgccctc | ataaccgatc | ttgcctcgag | cctattcggc | 4140 |
| cggcgcggtg | tcgacagggg | gacaacagca | ttttgatcac | cgggtgttgc | ccggtgcat | 4200 |
| cgaggtttgc | ctctcgacc | gagacaaacc | cttcgaaacc | aggaggaaga | ggatgaaggt | 4260 |
| aggaatagcc | ggagcaggat | cgatcgccat | tgggtatgcg | gcgttcctct | tacagaatgg | 4320 |
| ccatgagcca | ttgatctggt | cgcgttcacg | cgaaagaact | gctgctttct | ctgccggcgc | 4380 |
| accggtgaag | atcacgggtg | cgatcagcac | agagttccac | ccgcatactt | gcacgaacgc | 4440 |
| cgaggaattg | accgaagccg | atgtgatcgt | actggcactg | ccgcctatg | gccaccgctt | 4500 |
| tgttctcgac | gctcttctgc | cgcacctcag | cgcacgtcat | tcggtgatta | tcagcgctca | 4560 |
| tctttccttt | gcggcgcttt | atctcgccaa | gggactggcc | gagcgtggaa | tcgagatccc | 4620 |
| gatcacggca | tggagcacga | ctgtgctgac | ctgcaagccg | cgggcggcgg | atacgttcaa | 4680 |
| catcggggcc | atccgggcaa | aggtcgatat | ggcgacggta | ccggcccgtt | tcgcagaacg | 4740 |
| ggcgcacgaa | acctgtgtcg | ccctgttcgg | cgatcgcttc | gacgtgaagg | acgacgtcct | 4800 |
| tacgatcgca | ttgagcaatc | tcaatcccca | ggaccacatg | gggatcgcg | tgtgcaatct | 4860 |
| gtcgcgtatc | gagcggggcg | aggaatgggg | tcagaacacc | aacgtcacgc | ctgccgtcgg | 4920 |
| gcggttcctt | gaggcgctcg | atctggaaag | gctggcaatc | gcgtcacctt | cggcaaaacg | 4980 |
| gtccggtcga | ccttcgatca | cttccgattg | tcgttcgaca | tatccggcca | atccgtctcg | 5040 |
| gaaatatcat | cgatcctcgt | cgatcgcgga | agatccggca | ggcccgaaga | gccttgatac | 5100 |
| gcgctacgtg | ctcgaggacg | ttccctttgg | tctgatcccc | accctgcatc | tggcaaaagc | 5160 |
| agccggcctg | tctgcaccct | tgcatgaaag | cggcgtgcgg | atcttaagcg | cctgctacgg | 5220 |
| acgcgacttc | tccgaagaaa | acgacctgct | tccagacctc | ggcccgtgg | atctgcccac | 5280 |
| gctcaagaaa | cgggtagtta | ccgggtacgc | gatcacggcc | gaacccgtgt | gatcggggct | 5340 |
| cgtccggcag | cctatcaaac | caataaaggg | ggccaaaaga | tgcttgact | tgccaacctc | 5400 |
| aacatcgttc | cgttcatcag | tgttgaaaac | atgatggatc | tggcggtcag | caccgggatc | 5460 |
| gagaacttcc | ttgttcaact | ggccgggtac | attgaagaag | atttccggcg | ctgggaaagc | 5520 |
| ttcgacaaga | ttccacgcat | cgcttcgcat | tcgcgggacg | gcgtgattga | actcatgccg | 5580 |
| acgagcgacg | gaacgctcta | tggcttcaaa | tacgtcaacg | ggcatccgaa | aaacacgaag | 5640 |
| tcgggacggc | agacggtgac | cgcgttcggc | gtgctctccg | atgtcgatag | cggctatccg | 5700 |
| ctgctgctgt | cggaaatgac | aatcctgacg | gccttgcgaa | cggccgcgac | ctccgcgatc | 5760 |
| gcggcaaagt | atctggcccc | taaagattcg | cgacgatgg | cgctgatcgg | caacggtgcc | 5820 |
| caaagtgagt | tccaggcttt | ggccttcaag | gcgctgatcg | gcgtcgatcg | gatacgactt | 5880 |
| tacgacatcg | accccgaggc | tactgctcgc | tgctcccgca | atctccagcg | gttcgggttt | 5940 |

UNL2993.ST25.txt

| | |
|--|------|
| cagatcgagg cctgcacctc tgcggaacag gcggtcgaag gtgccgatat cattacgaca | 6000 |
| gcaacggccg acgagcacia cgccacgacg ctgagcgaca atatgatcgg gcccggcgctc | 6060 |
| cacatcaacg gcgtcggcgg cgactgcccc ggcaagaccg agatgcaccg cgatatcttg | 6120 |
| ctgcgttcgg atatcttcgt ggagttcccc ccacagaccc ggattgaagg cgagatccag | 6180 |
| caactcgcg cagatcatcc tgtgacggaa ctttggcgcg tgatgactgg ccaggacgctc | 6240 |
| ggccgaaaga gcgacaagca gatcacgatt ttcgacagcg tcggatttgc gatcgaggat | 6300 |
| ttttcggcgc tgcgctacgt ccgcgaccgc gttgagggat caagccacag cagcccactc | 6360 |
| gaccttctag ccgaccaga cgagccaagg gatctttttg gaatgctgct ccgtcgtcag | 6420 |
| gctttccgac gtttggttg ttgaacagaa gtcattatcg tacggaatgc cagcactccc | 6480 |
| gaggggaacc ctgtggttg catgcacata caaatggacg aacggataaa ccttttcacg | 6540 |
| cccttttaaa tatccgttat tctaataaac gctcttttct cttaggttta cccgccaata | 6600 |
| tatcctgtca | 6610 |

<210> 3

<211> 987

<212> DNA

<213> Agrobacterium tumefaciens

<400> 3

| | |
|--|-----|
| taaaagcttg ccttccatat cgcaaggga gtaataggca tgcgcccag tgtatttgtt | 60 |
| atggagaaag caatgattca atcgcgctcag ttagaagcgt tccgggcagt catgctgaca | 120 |
| ggaggtatga cgtcagcagc gaatctggtg aggatcacgc agcccgcgat cagccggctg | 180 |
| atcagggatc tcgaagagga aattgggatc agcctcttcg aaagaacggg caaccgggta | 240 |
| cgctctacgc gggaggccgg tattctgttc aaggaagtgt cgcgacattt caacgggatt | 300 |
| cagcacatcg acaaagtcgc ggctgaactg aagaagtctc atatggggtc cctaagggtc | 360 |
| gcctgttata cagcgccagc tctgagtttt atgtccggcg tcattcagac gttcatcgcc | 420 |
| gatcgggccg acgtgtcggg ctacctgac acagttcctt cccagacggt cctcgaattg | 480 |
| gtctcgctcc agcactacga tctcggaata tcgatattgg ctggcgacta tcttgggtctc | 540 |
| accaccgaac ctgtcccttc ctttcgtgcg gtctgcctgc tgccgccggg gcatcgcttc | 600 |
| gaagacaagg aaactgttca tgcgacggac cttgaaggag agtcattgat ttgcctctct | 660 |
| ccagtgaacc ttctacggat gcaaacggac gccgcactgg acagctgcgg cgtccactgt | 720 |
| aatcgagga tagaaagtag tctggcgctg aatctctgcg atctggtaag caggggaatg | 780 |

UNL2993.ST25.txt

| | |
|---|-----|
| ggggttggta tcgtcgaccc cttcactgcc gactactaca gtgcaaatcc gggtattcag | 840 |
| cgctcctttg atccggttgt cccctacat tttgctatag ttcttccgac cgacagccca | 900 |
| ccgccgcgt tggtagcga gttccggga gcgttgcttg atgctttgaa agccttgccc | 960 |
| tatgaaacca tttgatcgtc aggatcg | 987 |

<210> 4

<211> 1246

<212> DNA

<213> Escherichia coli

<400> 4

| | |
|--|------|
| gatccgctaa tcttatggat aaaaatgcta tggcatagca aagtgtgacg ccgtgcaaat | 60 |
| aatcaatgtg gacttttctg ccgtgattat agacactttt gttacgcgtt tttgtcatgg | 120 |
| ctttgggtccc gctttgttac agaatgcttt taataagcgg gggtaccggt ttggttagcg | 180 |
| agaagagcca gtaaaagacg cagtgcggc aatgtctgat gcaatatgga caattggttt | 240 |
| cttctctgaa tggcgggagt atgaaaagta tggctgaagc gcaaaatgat cccctgctgc | 300 |
| cgggatactc gtttaatgcc catctggtgg cggtttaac gccgattgag gccaacgggt | 360 |
| atctcgattt ttttatcgac cgaccgtgg gaatgaaagg ttatatctc aatctcacca | 420 |
| ttcgcggtca gggggtggtg aaaaatcagg gacgagaatt tgtttgccga ccgggtgata | 480 |
| ttttgctgtt cccgccagga gagattcatc actacggctg tcatccggag gctcgcgaat | 540 |
| ggtatcacca gtgggtttac tttcgtccgc gcgcctactg gcatgaatgg cttaactggc | 600 |
| cgtcaatatt tgccaatacg gggttctttc gcccgatga agcgcaccag ccgcatttca | 660 |
| gcgacctgtt tgggcaaatc attaacgccg ggcaagggga agggcgctat tcggagctgc | 720 |
| tggcgataaa tctgcttgag caattgttac tgcggcgcg ggaagcgatt aacgagtcgc | 780 |
| tccatccacc gatggataat cgggtacgcg aggttggtca gtacatcagc gatcacctgg | 840 |
| cagacagcaa ttttgatata gccagcgtcg cacagcatgt ttgcttgctc ccgtcgcgtc | 900 |
| tgatcacatct tttccgccag cagttaggga ttagcgtctt aagctggcgc gaggaccaac | 960 |
| gtatcagcca ggcgaagctg cttttgagca ccaccggat gcctatcgcc accgtcggtc | 1020 |
| gcaatgttgg ttttgacgat caactctatt tctcgcgggt atttaaaaaa tgcaccgggg | 1080 |
| ccagcccag cgagttccgt gccggttggt aagaaaaagt gaatgatgta gccgtcaagt | 1140 |
| tgatcataatt ggtaacgaat cagacaattg acggcttgac ggagtagcat agggtttgca | 1200 |
| gaatccctgc ttcgtccatt tgacaggcac attatgcaag cattgc | 1246 |

UNL2993.ST25.txt

<210> 5

<211> 1335

<212> DNA

<213> Escherichia coli

<400> 5

```

gcaatgcttg cataatgtgc ctgtcaaatg gacgaagcag ggattctgca aaccctatgc      60
tactccgtca agccgtcaat tgtctgattc gttaccaatt atgacaactt gacggctaca      120
tcattcactt tttcttcaca accggcacgg aactcgctcg ggctggcccc ggtgcatttt      180
ttaaataccc gcgagaaata gagttgatcg tcaaaaccaa cattgcgacc gacggtggcg      240
ataggcatcc ggggtggtgct caaaagcagc ttcgcctggc tgatacgttg gtcctcgcgc      300
cagcttaaga cgctaattccc taactgctgg cggaagatgt gtgacagacg cgacggcgac      360
aagcaaacat gctgtgcgac gctggcgata tcaaaattgc tgtctgccag gtgatcgctg      420
atgtactgac aagcctcgcg taccggatta tccatcggtg gatggagcga ctcgttaatc      480
gcttccatgc gccgcagtaa caattgctca agcagattta tcgccagcag ctccgaatag      540
cgcccttccc cttgcccggc gttaatgatt tgcccaaaca ggtcgctgaa atgcggctgg      600
tgcgcttcat ccgggagaaa gaaccccgta ttggcaaata ttgacggcca gttaagccat      660
tcatgccagt aggcgcgcgg acgaaagtaa acccactggg gataccattc gcgagcctcc      720
ggatgacgac cgtagtgatg aatctctcct ggcggaaca gcaaaatatt acccggtcgg      780
caaacaaatt ctcgtccctg atttttcacc acccctgac cgcgatggg gagattgaga      840
atataacctt tcattcccag cggtcggtcg ataaaaaat cgagataacc gttggcctca      900
atcggcgcta aacccgccac cagatgggca ttaaagcagt atcccggcag caggggatca      960
ttttgcgctt cagccatact tttcactc cgcgcattca gagaagaaac caattgtcca     1020
tattgcatca gacattgccg tctactgctc ttttactggc tcttctcgct aaccaaaccg     1080
gtaaccccg cttattaaaag cattctgtaa caaagcggga ccaaagccat gacaaaaacg     1140
cgtaacaaaa gtgtctataa tcacggcaga aaagtccaca ttgattatct gcacggcgctc     1200
acactttgct atgcatagc atttttatcc ataagattag cggatcctac ctgacgcttt     1260
ttatcgcaac tctctactgt ttctccatac ccgttttttt ggatggagtg aaacgatggc     1320
gattgcaatt ggaat

```

<210> 6

<211> 1113

<212> DNA

UNL2993.ST25.txt

<213> *Escherichia coli*

```

<400> 6
ccggaagaga gtcaattcag ggtggtgaat gtgaaaccag taacgttata cgatgtcgca      60
gagtatgccg gtgtctctta tcagaccgtt tcccgcgtgg tgaaccaggc cagccacgtt     120
tctgcgaaaa cgcgggaaaa agtggaagcg gcgatggcgg agctgaatta cattcccaac     180
cgcgtggcac aacaactggc gggcaaacag tcgttgctga ttggcgttgc cacctccagt     240
ctggccctgc acgcgccgtc gcaaattgtc gcggcgatta aatctcgcgc cgatcaactg     300
ggtgccagcg tgggtggtgtc gatggtagaa cgaagcggcg tcgaagcctg taaagcggcg     360
gtgcacaatc ttctcgcgca acgcgtcagt gggctgatca ttaactatcc gctggatgac     420
caggatgcca ttgctgtgga agctgcctgc actaatgttc cggcgttatt tcttgatgtc     480
tctgaccaga caccatcaa cagtattatt ttctcccatg aagacggtac gcgactgggc     540
gtggagcatc tggtcgcatt gggtcaccag caaatcgcgc tgtagcggg ccattaagt     600
tctgtctcgg cgcgtctgcg tctggctggc tggcataaat atctcactcg caatcaaatt     660
cagccgatag cggaacggga aggcgactgg agtgccatgt ccggttttca acaaaccatg     720
caaatgctga atgagggcat cgttcccact gcgatgctgg ttgccaacga tcgatggcg     780
ctgggcgcaa tgcgcgccat taccgagtcc gggctgcgcg ttggtgcgga tatctcggtg     840
gtgggatacg acgataccga agacagctca tgttatatcc cgccgtcaac caccatcaaa     900
caggattttc gcctgctggg gcaaaccagc gtggaccgct tgctgcaact ctctcagggc     960
caggcgggtga agggcaatca gctgttgccc gtctcactgg tgaaaagaaa aaccaccctg    1020
gcgcccaata cgaaaccgc ctctccccgc gcgttgggcg attcattaat gcagctggca    1080
cgacaggttt cccgactgga aagcgggcag tga                                     1113

```

<210> 7

<211> 24708

<212> DNA

<213> *Agrobacterium tumefaciens*

```

<400> 7
ctgcaggagc agaggtgagc gcgaccgtcc gatccagccc gccggtgcgc tcgaagcaca      60
acacaccgcc aaccacgagc accgcaaccc acatcgaccg atgcatcacg tgctgaccgt     120
tctagcattc gccgcagtgt cgcgttcgtc gcctgctgc cgacgcttgc ccttcgttga     180
acgaattcgg ttcaggatgg gcggcagaaa cgcaatgtct tcccatatct cggcaccttc     240

```

UNL2993.ST25.txt

| | | | | | | |
|------------|------------|-------------|-------------|-------------|-------------|------|
| gaagagcgtc | tcgctgttgc | gattgcgcca | ccgcacctct | tctctcgtca | cgataggcgg | 300 |
| cgcgatctcg | gcaagggctg | cgagcggcgc | aaggatcagg | acacagaaca | tgccgattgc | 360 |
| tttcagggcc | gtttcccca | gcagcgggag | cacgccaaga | gaggcgatag | ctgccacacc | 420 |
| gaaaaacggc | gtgacgataa | tgaacgcgac | ccagatcatc | agcggggccga | tcagcgagta | 480 |
| ccaggttgtt | ctccaatgcc | tcatgggcgc | gtcccttcct | tctgccatgg | cggcgcattgt | 540 |
| tcagtgtgcg | tatcggttcc | ggttccagtt | cgatggaacc | tggtctcgcc | gacacaggct | 600 |
| ttcatgtcat | cacggcggaa | ccagatggcc | cggccgcacc | ggagcggcgg | attgcccagag | 660 |
| gtgaagacga | tctgctcgtc | gctgcgcatg | tgcagaactt | catgcggcag | gatcagcggc | 720 |
| cggcgactga | gctgcttcga | tctcgatcgc | gaagatccct | tcattccggg | tgaacggttg | 780 |
| gtctggtcga | cctcgacggg | ggtgtctcca | cagcgcttcg | agatatagtc | ggcggtatcg | 840 |
| ggatcggtta | ttgccgcaaa | cgaaatccac | gatgcggatt | cgaaccattt | gctggtcgca | 900 |
| tcacgcccgc | cataggcctc | acgcatctgg | ccgagcgact | ggaagatcat | cgtcagcatg | 960 |
| atgccgtatt | tgcggcctgc | gtcgcgagcg | gtttcgagga | tgcgcaggta | gccgagacgc | 1020 |
| gctacctcgt | cgagcaggaa | gaggggtgcga | ccctttacat | tgccgttgcg | gttatagatc | 1080 |
| gcgttgagca | gcgagccgat | gacgacacgc | gcgaggccgg | gatgggcttc | cagcaccttc | 1140 |
| aggtcgagcg | cgatgaagat | gtccgttccg | ccgtcggcga | gatcgtcggg | cgaaaagctg | 1200 |
| tcgcccgata | caagtccggc | atagttggga | taggacagcc | aatgggtttc | cttcaccgca | 1260 |
| ttggcataaa | caccggaaaa | cgtctccggc | gtcatgttga | cgaacactga | cacattctcc | 1320 |
| ttcacgaagt | cggattcaga | cccttcgtag | atcttcgtca | gacgcgcgcg | cagcttgggt | 1380 |
| tccggttcgg | acaggttggc | gcggacgcgg | cgacagcgtc | ggcttccgt | ttccgtgtgc | 1440 |
| cctgacaggc | acacgtcggc | gatcagggcg | gtcagcagct | gcatggcgga | agcgcggaag | 1500 |
| aagtcgtcgc | gggcggatgc | cgttcgggga | ttgtcgggtca | tgatccatgt | ggcgacggcg | 1560 |
| acgatatcct | cttccttggg | attgccatga | cggccgatcc | agtcgagggc | attgaagccg | 1620 |
| acaccgccgg | ctgtcggatc | gagcacgatc | accttgccgg | cggcctgacg | cctgtgctcg | 1680 |
| cagaccatcg | gcgcgacctc | gcttgacggg | tccagaacga | caagcccgcc | gccccatttg | 1740 |
| agcgcggtcg | ggatcgtcac | cgatgtcgtc | ttgaaaccgc | cggagccggc | gaagacgatg | 1800 |
| ccatgcgacg | atccgaagga | accgtcgaag | cagagcagcg | gcgacttgcc | gccagcggcc | 1860 |
| cagctttgtc | gatcgtcagc | gcgaaacggc | atggcggcaa | cactgtcgcg | atcaaccgga | 1920 |
| tagcgctcgc | cgatgatgat | gccgcctcgt | tcgggaaaca | gttttgccgc | ctcctggatc | 1980 |
| ttcatccagt | cggcctcgcc | atgcacagcc | cgcttgccgc | cgatccgttt | gggcgctggt | 2040 |
| gttgcaacg | cggcattgcc | cttgatcgcg | acacgcagcg | cgaacattcc | gctgatgaag | 2100 |

UNL2993.ST25.txt

gcaatgcttg cgccgatcat cgtcaccgga tcagcatagg ccagaaccga ttgttcggcc 2160
ggcacgctgc ttgcatgct attcaggcgg attacttcgc gcagtgttgc gatggtaatg 2220
accacgccgc ttccggccag cacgctcaga ccggcggcct tgatgttggc cgatccgttc 2280
gcggcgaaga ggccaattat gccgatcgcc accgcagcga ttagggggag cgcgagcccc 2340
gcgcgtccca gcatcagctt cgcctgcggg gacgttccga atgccgccag tcgctgctcc 2400
atcccggatg tcgcgaacat cgccgcgagc attatgattg ccggcaggat caacagcaaa 2460
agcctattca tcgtcatggc cgaacgcctc cgcgccgatg gcggtcaagc gtgaccgctc 2520
ttcttcgtcg cccttgagcc ggcgccgcc gtcgaccaac agcccagca acagcggccg 2580
cttttcgtaa cgcagtcctg ccttgacgat cagcccgccg agctcgattt tttcgcgggt 2640
gtccttcttg cgtgcgtttg acgtcatcga ctttgccatc cgttcaagcc tcgccagacc 2700
cgcttcatc cgcgccagac gcgagcgccg cggacggctc ggtaccggtc cggctctctc 2760
cggcttgtct ctttccggtc gccgagccct tgccgccacg aaaccgtttg gcgacttcct 2820
cgaaggctgc ctgaagctgt gactcctcga tgtcgatttc accaagaccg gccttcaacg 2880
caatcctgcc gattcgttcg gcctcgcgtg tttcggcctg tttcagctgg tcctgcaatc 2940
tggcaatttc ttccctgatc ttcgatgatg gtttcttcat tccggtcgca tctccctgga 3000
aatcctgcgg cgtctgttcc gctgcaagat ttcctcaaaa gcacttcgga aggaatgtgc 3060
agatctgcac gtcggcaaag ccgacacttt ggaggatgat cccgccgctc gacgagagcg 3120
gatccaaggg cgcaattata cgtcgttgac gcgacgcctt gcgtaggggg ccaaacaggg 3180
gcccactgtg gcctcaccgc tcccagacaa cgacgttcaa acgggagctt ttaccgccgt 3240
ggccatcgcc cacttctcag ccagcatcgt cagccgcggc gacggccgca gcgtggtgct 3300
gtctgcggcc taccagcact gcgcgaagat ggaatacgag cgcgagggcc gcaccatcga 3360
ctacacccgc aagcaagggc tgggtgcatca ggaattcata ctcccggcgg atgccccgaa 3420
atgggtccgc gcgttgattg cagactgttc tgtcgccggg gcctctgagg ctttctggaa 3480
caaggtcgag gctttcgaaa aacgctccga cgcgcagctg gcccgcgacc tgacgattgc 3540
actgccgcgg gagcttacat ccgagcagaa catcgccctg gtccgtgatt tcgtggagaa 3600
acatatcctg ggggaagggc tggtcgccga ctgggtctat cacgacaatc ccggcaatcc 3660
gcacatccac ctgatgacca cattgcggcc gctaaccgag gacgggttcg gggccaagaa 3720
ggtagcggtc attggtgagg acggccagct ggttcgcacg aaatccggca aaatcctcta 3780
cgaactttgg gccggttcga cggacgattt caacgtcgtg cgcgatggat ggttcgaacg 3840
gctgaaccat cacctgacgc ttggcggcat cgatctcaag atcgatggcc gctcctacga 3900
gaagcagggg atcgacctc aaccgacgat ccatctcgga gttggcgcca aggcaatctc 3960
gcggaaagcg gaacaacagg gtgttcggcc ggagctcgaa aggatcgaac tgaacgaaga 4020

UNL2993.ST25.txt

| | | | | | | |
|------------|------------|-------------|------------|------------|-------------|------|
| acgccgctcg | gaaaacaccc | gccgcatcct | caaaaatcca | gccatcgtgc | tcgacctgat | 4080 |
| catgcgggaa | aagagcgtct | tcgatgaacg | cgacgtcgcg | aaagtgtgc | accgctatgt | 4140 |
| cgacgatccc | gccgtcttcc | agcagctgat | gttgcgcatc | atcctgaatc | cggagggtgct | 4200 |
| acggctgcag | cgcgacacga | tcgagttcgc | gaccggagag | aaagtgccgg | cgcgctattc | 4260 |
| gacacgggcg | atgatccggc | tggaagcgac | gatggcgcg | caggcgatgt | ggctgtcggg | 4320 |
| caaggaaacg | catgccgttt | ccacggcggt | gctgctcgca | gcgacttttg | ggcggcatgg | 4380 |
| gcggctgtcg | gaggaacaga | aagcagccat | cgagtgcac | gccggtccgg | cacgcatcgc | 4440 |
| cgcggtcgtc | ggacgcgcgg | gtgctggcaa | gaccacgatg | atgaaggcgg | cgcgggaggc | 4500 |
| gtgggagctg | gccggatata | gtgtcgtcgg | tggcgcgctc | gccggcaagg | cgtcggaggg | 4560 |
| tctggataag | gaagccggca | tcgagagccg | cacgctctcc | tcctgggagc | tgcgctggaa | 4620 |
| ccgcggtcgt | gacgtgctcg | acaataaaac | cgtcttcgtc | atggacgagg | ccggcatggt | 4680 |
| ggcctcgaaa | cagatggcgg | gctttgtcga | tgccgtcgtc | agggcagggg | caaagatcgt | 4740 |
| gctagtcggc | gatcccagac | agcttcagcc | gatcgaagcg | ggggccgctt | tccgcgccat | 4800 |
| tgctgatcgg | attggttacg | ctgaactcga | aacgatctat | cgccagcgcg | aggactggat | 4860 |
| gcgaaaggcg | tcgctcgatc | tggcgcgcgg | caatgtcgag | aaggcgttgg | cgctctacaa | 4920 |
| tgccaatgcg | agaattgttg | gcgaacgtct | gaaggcggaa | gcggttgagc | gcctgatcgc | 4980 |
| cgactggaac | cgtgattacg | atcagacgaa | gacgacattg | atcctcgccc | atctgcgccg | 5040 |
| cgacgtgcgc | atgtctaacg | tcattggcgcg | cgagaagctg | gtcgagcgcg | gcatcgtcgg | 5100 |
| cgagggccac | gtcttcagaa | cggctgacgg | cgaacgccgt | ttccacgcag | gcgatcagat | 5160 |
| cgtcttcctg | aagaatgaga | ccttacttgg | ggtcaagaac | ggcatgatcg | gcatgtcgt | 5220 |
| tgaggctgtg | ccaaaccgca | tcgttgcggt | ggtcggggat | cgggatcatc | ggcggcatgt | 5280 |
| tgtggtcgaa | caacgcttct | acagcaatct | cgatcacggc | tatgcgacga | ccatccacaa | 5340 |
| gtctcagggc | gccactgtcg | acaggggtcaa | ggtgctggcc | tctctctcgc | tcgatcggca | 5400 |
| tctgacctat | gtcgcgatga | cccgccatcg | cgaggatctc | cagctctatt | acggatgccg | 5460 |
| ttccttcgcc | ttcaacggtg | gcctagccaa | ggttctttcc | cgaaagaacg | ccaaggagac | 5520 |
| gacgctcgat | tacgagcgcg | gcaaactcta | ccgcgaggcg | ctgcgctttg | ccgaaaaccg | 5580 |
| tggcctgcac | atcatgcagg | tggtctgaac | aatgctgcgc | gaccggctcg | actggacgct | 5640 |
| gcgccaaaaa | acaaagggtt | ccgatctcgt | tcataggctt | cgtgcgctcg | gtgagcgctt | 5700 |
| cggcctcgac | caatccccaa | aaacccaaac | gatgaaggag | gccgcgcccc | tggtcacagg | 5760 |
| catcaagaca | ttctccggct | ctgttgccga | tacggtcggg | gacaagctcg | gcgccgatcc | 5820 |
| cacgctgaag | cagcaatggg | aggaggtctc | ggcgcgcttc | cgctacgtct | tcgccgatcc | 5880 |

UNL2993.ST25.txt

| | | | | | | |
|-------------|-------------|------------|------------|-------------|-------------|------|
| cgaaaccgcc | ttccgcgccg | tcaacttcga | tacggttctg | gcagataagg | aggcagcgaa | 5940 |
| agcgggtcttg | cagaagcttg | aggcggagcc | ggcatcgatc | ggggcgctga | agggcaagac | 6000 |
| cggtattctg | gccagcaaga | cggagcgcg | agcgcgccgc | gtcgcagagg | tcaatgttcc | 6060 |
| cgcctgaag | cgcatcttg | agcaatatct | gcggatgcgc | gagaccgcga | cgctgcggat | 6120 |
| agtgaccgaa | gaacaagccc | tgcgccagcg | cgtctcgatc | gacatcccgg | cgctctcgcc | 6180 |
| ggccgcacgc | gtggtgcttg | agcgcgtgcg | cgacgcgatc | gaccggaacg | atctgccggc | 6240 |
| ggccttgga | tatgcgctca | gcaatcgcg | gaccaagctc | gagatcgacg | ggttcaacca | 6300 |
| ggctgttacc | gaacgcttcg | gggagcggac | cctgctgagc | aacgtggcgc | gcgagccgtc | 6360 |
| cggaaagctg | tacgaaaaac | tctccgatgg | tatgcggccg | gagcagaaaag | agcagttgaa | 6420 |
| gcaagcctgg | ccgatcatgc | gcacggccca | gcagctcgcc | gcccacgagc | gcaccgtgca | 6480 |
| gtcgtgaaa | caggccgagg | aattgcggca | gacgttgcg | caggcaccgg | tgctgaaaca | 6540 |
| atgagcaaac | gcgctgtcat | ccggtttctc | ggtgtcgag | gcctcgtctt | gagcggcgcc | 6600 |
| accgtcatgg | ggctcatcgg | tggttatcga | gtgaacgtca | cgccgagcga | accccttggg | 6660 |
| ctctggcgtg | tggaaaagct | ccgacgccc | gttcagtccg | gcgatctggg | gtttgtctgc | 6720 |
| ccgccgcaca | acgccttctt | cgaggaagcc | tggctacgcg | gctatctccg | ttccgggctc | 6780 |
| tgcccaggtt | ggttcgcgcc | gtcataaaag | tccgttctgg | cgcttcccgg | tcagcgcgtc | 6840 |
| gaaatcgccg | atcggaattgt | catcgacggt | catcccgtat | cggcttccac | tgtagcgcg | 6900 |
| acggacagcg | agggcagggc | gatcgcgccc | ttcgccggcg | gcgtcgtgcc | gccaggattt | 6960 |
| ctatttctcc | attcttcctt | tgcgagttcc | tatgattcac | gatacttcgg | cccgatcccc | 7020 |
| gacagcggtc | ttctcggcct | ggcgcggccg | gtgttcacgt | ttgaccctg | accgctggcg | 7080 |
| tgtggcgctc | ctgatcctgc | tttcgatcgc | cgtcggagcg | gtcggctgga | gcggcgaggc | 7140 |
| cctccttctt | ccgacagcca | tgctctttcc | gttgctatgg | gcgcaatctc | catcacgact | 7200 |
| ggttgcgggc | gcggtgtctg | ccgggtactt | cctcaccgcc | tcgcgcggcc | tgccgcaggg | 7260 |
| tgtggcgaac | ttctacgccg | ccgatttctg | gcacggcctc | ctgctatggc | tggcggcctc | 7320 |
| ggccggcttt | gtcgccgtgc | atgcggcggt | ctggcccgcg | cgcttgcaaa | agaggcttcc | 7380 |
| gggaaggggc | gctctggggt | ggggaaagcc | ggtgcgctac | cttgcggccg | cgggtgctgat | 7440 |
| ggggctgccg | cccttcggca | tcaccgggtg | ggcgcattca | ctaaccgcag | cgggcattct | 7500 |
| gtttcccggc | tttgatgggt | gggggctggg | tgcgaccaca | gccggcctcg | cgatgatgac | 7560 |
| atcgcgatac | tggccggctg | ctgccattgc | cctgggaggc | ttctggttct | ggtccgccgc | 7620 |
| tacgtggacg | caacctgtcc | taccggatgg | atggaaaggc | gtcgacctcg | aacaggggtca | 7680 |
| aacgcttgga | cgtgatgggt | cgcttgacca | tcaccgtgac | ctgatcgcaa | cgggtgcgcgc | 7740 |
| ggcggcagga | gcggaaaccc | gtgtcatcgt | tcttcccga | agcgccctcg | gcttatggac | 7800 |

UNL2993.ST25.txt

| | | | | | | |
|------------|-------------|-------------|------------|------------|------------|------|
| cccgactgtc | gcacggcttt | ggcaggcggg | cttgcgaggg | gcggacgtca | ccgtgatcgc | 7860 |
| cggcgcgggc | gtcatcgatc | cgggcggcta | cgacaacgtc | atggtgacgg | tctcggaggg | 7920 |
| tgaaacacgg | atcctctatc | gcgagcggat | gccgatcccc | gtatcgatgt | ggcagccatg | 7980 |
| gttgcaatgg | accgggcagg | gcggtggcgc | tcaagcgc | ttcttcgcca | acccggccgt | 8040 |
| ggatctcgct | ggcacgagga | tcgcgccgct | gatctgctac | gagcagctca | tcgtctggcc | 8100 |
| catactgcac | tcgatgctgt | tttccccgc | cgccatcgtc | gccacgggca | acggatggtg | 8160 |
| gaccgagggg | acgtcgatcg | tcgccatcca | acaagcaggc | gtgatcgct | gggcgaaact | 8220 |
| cttcgggcga | cccgtcgtca | cggctttcaa | cacataagga | gactttcgcg | atggtcgatt | 8280 |
| ccgccctcat | caaggaatgc | agcgatcccc | gcctgaaacc | cgcgatcgtc | gaacagttca | 8340 |
| tcgaacgggc | aggggcgcgc | gacccgctcg | cggctactgt | ccgctccggc | aaccgcatcg | 8400 |
| tgcttggtcc | gaggccgaca | acgccggacg | aggcgctcgc | attgatacgc | cagaacctcg | 8460 |
| gtcgcaatat | cgttcgggtc | ggcttgacgc | agtatccccg | cgggctcggg | atcgtcgagg | 8520 |
| cgggccagtt | gaagccggac | ctgatcgagc | cttgcgaaaa | catcaaaatg | ggcacggccc | 8580 |
| tgttcgccaa | agtctatcgt | atcgtcacca | aatggtacgg | taaccctacc | gaaagcgagg | 8640 |
| tccttcgcga | ggtttttgaa | gacgcgatca | tcgcatggca | aacgggggat | ttcgagggga | 8700 |
| cagcgggtgt | ccgggcagcc | gatccggggc | acgtgaagct | gccagagccg | gatcctgggg | 8760 |
| tggaagcgga | aacgtccgaa | gccggtagt | acaagatgaa | gggcggcaac | gtcgatactg | 8820 |
| cactcgaggc | ggaaccagct | gacccgaaca | aggccgggat | tcggatcgac | ctttccggca | 8880 |
| tcggcgcgcg | cgggaagtga | ggaacagggt | cctcgcgtct | gcgtcgatga | acgcggggca | 8940 |
| ggagcgaaaa | attgctcggg | ccgtgtgcc | agcgaatcgc | agttaatgag | accgtggcgg | 9000 |
| aaaacaacta | agtgtcgtca | cgcttcaaca | atgcattcta | accctggtcg | caagtgcgt | 9060 |
| tgattttctt | ttcgaaagca | taggccttga | ggtattttgt | gccttgcatc | gaggtgggca | 9120 |
| tgtgaagatt | tgcaccgtcg | ttctgtcgat | cggcgctggc | atctctttgg | aatggctctt | 9180 |
| ataaagggca | tgacgcagta | cgcgctgtgt | tgcggttag | aatccgcaga | tgaacggtg | 9240 |
| gcgctgaccg | aaacggtgcc | aggaaccctc | tgaccttggt | gccggggggc | tgtgactcat | 9300 |
| gtccaggcgc | ctcgggtgcta | aagggtctcag | ggccgattca | tctcggattc | taacccccgg | 9360 |
| ctagggttca | aagggttcaa | cgtcagcggg | ggcgcaccgc | agacaaaacc | agggttaggt | 9420 |
| caggaatgga | atcggaagat | gcaacattga | cgaaaaaagt | tgagctccgg | ccactggtcg | 9480 |
| gcttaactcg | tggactacac | ccggctgacc | tcgagaaact | gaccatagac | gcaatccgtg | 9540 |
| cgcacgcgac | actggctgaa | aaggccgacg | aacttttcca | ggccctgccg | gaaagctata | 9600 |
| agtcgggaaa | ggaagtcgga | ggcccacagc | atctgtgtta | catcgaggcc | agtatcgaga | 9660 |

UNL2993.ST25.txt

| | | | | | | |
|-------------|-------------|-------------|------------|-------------|-------------|-------|
| tgcacgcgca | gatgagcgct | gtcagcacgc | tgatcagcat | tcttggtat | atcccgaacg | 9720 |
| ccaccgtgaa | ctgaaccggg | ttccgtttgt | ctcatggcta | atTTTTatag | cgggctatga | 9780 |
| tgtcataccc | tgaactattg | cggcagctca | gacccgctat | cttcatcgga | ggaaaggcgg | 9840 |
| cctgacacga | gctcctccgt | tcggtctctt | tgataacgac | tgcggtggaa | ccctacgcag | 9900 |
| cgaagacctg | ggcagcgcg | gtcgcactgtt | tggcgactgg | cgcgacggat | ggctgatgaa | 9960 |
| cctggccagc | aaacgcttgc | gttcggccgc | tatcatcgaa | cctgaaatgc | tccagcagct | 10020 |
| cgaatagcgc | ggcggcctcg | cgagcaaggc | tgtggctggc | cgccgtctgc | tcctcgacca | 10080 |
| tcgcggcggt | ttgttgcggt | ccctgatcga | cgctgttcac | ggccttggtg | atctcaccga | 10140 |
| gagcgttcga | ctgctcgcg | gccgcttcga | caatcgcgac | gacattcggt | ttgatgtcgt | 10200 |
| ggacctgggt | tgcgatttcc | tgacgcgcg | aaccggcttt | cgtgacaagc | gataccccgc | 10260 |
| tctggacctg | gctgcccgc | gaggtgatca | gcgtcttgat | ttccttggcg | gccttggccg | 10320 |
| atcgctgcgc | gagctcgcg | acttcctgcg | cgacgaccgc | gaatcccttg | cccgccttcgc | 10380 |
| cggcacgggc | cgcttcgaca | ccggcattca | gcgccagggt | gttggtctgg | aacgcgatct | 10440 |
| catcgatgac | accgatgatg | ttggagatct | cgcgagagga | cgtttcgatc | tgatccatgg | 10500 |
| cgccgatcgc | gtcgcgcacc | acctccccgc | aatgctctgc | atgttcgcgg | gtgcgtgcaa | 10560 |
| cgagttggcc | agcctcctcc | gcccgcgcgc | tggaatcctt | gaccgttggt | gtgatttcct | 10620 |
| cgagcgcagc | ggcgggtctcc | tcgaccgagg | cggttggtg | ctcgggtcgt | tttgccagct | 10680 |
| cgtcggcgcc | ggtccgaatc | tcgctggatc | ccgcggagat | cgccctggcg | ttgtcggcga | 10740 |
| cagtcgccat | cgcgcgcttc | agcttgctcg | aggcggcgtt | gaaatcggtg | cgcaaacggt | 10800 |
| cgagcgaggg | gatgaacggg | ttttcgattt | gctgcgccag | gtcaccgtcc | gccagactgt | 10860 |
| tcaggcagcc | cgcgagctgt | tcgacgtttt | cgacccgggt | ggtcacgtcg | gtcgcgaatt | 10920 |
| tcacgacctt | gaaaactctg | ccgttcatat | cgaagatcgg | attataggat | gcctggataa | 10980 |
| agaccttgcg | accacccttg | ccgagccgca | tgaactcgtc | cgccatcaaa | tccccgcctg | 11040 |
| caagcatctt | ccagaaaattc | cgatagtcgg | gcgacgcggg | ataggatggg | tcgcagaaca | 11100 |
| tcgaatgggt | tttgccctgg | atctcgctca | gagaatatcc | gagggcggac | aggaaattct | 11160 |
| catttgcggt | caggacgtcg | ccggtcggcg | tgaactcgat | aatcgccctgc | gcccgcgcaca | 11220 |
| aagcctcgat | cttgccggca | tcttctgcaa | ctttcagctt | ctgggcgggt | atgtcggtgg | 11280 |
| cgatcttgac | aaccttgacc | ggcttgccac | ggcgcatgac | agggttatag | gacgcctcga | 11340 |
| tccagacttc | cttgccgccc | ttgccgatgc | gcttatattg | ctgctgggtcg | aagttgccgg | 11400 |
| cggcgagttt | cgcccagaac | gccttatagt | ctgccgattt | cacaaatgcc | ggttcaacga | 11460 |
| acatgctgtg | atgtttgccg | ataatttctg | atagctcata | gccaagcgcc | cggcagaaat | 11520 |
| tgctcgttggc | agtgagtatc | ctgccggaca | gatcgaattc | gatcatggcc | tgagacttag | 11580 |

UNL2993.ST25.txt

| | | | | | | |
|------------|------------|------------|-------------|-------------|-------------|-------|
| agagggcagc | aagtaccgcg | catgcattgg | caccacgatt | gagaatattc | accaggcgac | 11640 |
| ctcccaagga | tacttaccgg | accgaaggtc | gcggcagagc | gcgaatagtt | gcatacgatg | 11700 |
| tttaatcttc | atttaaaca | ggaactggca | tccatcaatt | atgcccgcct | aaagcgctcg | 11760 |
| aagagaagga | ggagattgta | tcaacaatca | tgtgccgctc | gataagggct | tccatgttgc | 11820 |
| gattgagcaa | agacagcagc | agctcttttg | tgacggcccc | ggtctcgatt | ttttcgagat | 11880 |
| agagcggacg | ccacgtgagg | tcgagatcct | ggcttaggtc | ttcgtgcaac | ttgactaact | 11940 |
| cctgccgggc | cgcttcagg | ctatcgaaaa | actgaacggg | ggtgtgcccc | tgacagccagt | 12000 |
| gcgcctgatc | atcggcagtc | gcctgagaat | aggtgtagaa | cgtataggaa | gttactgaca | 12060 |
| tcattcctct | cccctggttt | gtctgtcacg | ttttcagatc | agctttcttc | tgattgcbag | 12120 |
| ggcggtgaga | tgggccttgc | tgcaaacgtc | gaagcgcttc | atggcctcgc | ggagcttgac | 12180 |
| acggacgctg | ttgtacttga | cgccctccac | gtctgcgact | tcctccattg | tcatgccgac | 12240 |
| ggcgatccat | ctgagatagg | tcgcctcttt | cggatcgagc | caggcggcat | cttccactgt | 12300 |
| cggagtggtc | tgaaggaaag | agatgcgggc | atggagctgc | ccgacggcgc | ccgcggctgc | 12360 |
| ggccgcgctg | atctcacggg | cgaggtcgat | cgccggcctt | tccgacgcca | gcgtgaacat | 12420 |
| cgacattgat | ccgttggcgg | tcttgatcgg | aatggatgat | ccggagcgga | tgccgaaatc | 12480 |
| ggccgcatgc | gcgtagaagg | cacgctcttc | cttcgatagc | cgcgatcggt | cctgttcgcc | 12540 |
| ggaccaggca | aagacgtgct | tcctggattt | cgcgcgcttg | acgaccggat | cgagcttgct | 12600 |
| gaagtgttgc | tcgaagtaag | ccgatcgcca | gtcacgatga | taattgggtga | ccgcgatggg | 12660 |
| gtgtttgtgc | tggatatgga | gataggcata | gccgggtgaag | ccgaaatggt | cggcaaggct | 12720 |
| ggcaaggcca | tccttcagga | tgactcgtc | gccctgaatt | gcggcaagat | cggtaacctt | 12780 |
| gtccagccag | tgctgcattc | cataccccca | tatgctgggtg | tgcgatgcct | actctaactg | 12840 |
| ttgctcccag | cagccgaccg | ccgggctgaa | tctgctttca | tcctctttta | cccagacaac | 12900 |
| tcaggctgag | ccgaagcatt | tttcacagag | gcatacatgc | tccaacgctt | cacgaatatc | 12960 |
| cgtactatcc | ccctgtacat | gctatcgagc | cggggaagcg | gcacttgctg | gcagttcact | 13020 |
| cgacgatctg | catctcgctc | tgaccagatg | cggcaatgct | cgccctgcgg | tcggcaaatg | 13080 |
| agatcttcaa | ttcagcaaaa | gcacgcgcgt | gttgccatga | aagcaccaac | gctccggcat | 13140 |
| cagcaatggg | ggccttgagc | gctccaccga | aggcgggatg | ggtgttcctg | aaacggatca | 13200 |
| gatttgaaag | gcgatggaag | agcggcgctc | caagggccgt | accgatttcg | tcgttgccgt | 13260 |
| aatagtgccg | gttaatgtca | cgccccacgc | ccgttttgcc | gagcaggtcc | atatcgttta | 13320 |
| cgccgcccga | taaaccgaca | taatagactt | gcggaattcc | tggagcaaaa | aactgaattg | 13380 |
| cccagcgat | gagataatca | ttatcggtgc | gaccaagcgc | gtcatagtag | gtgcagttta | 13440 |

UNL2993.ST25.txt

cctgataaag gtccagattc gatgcagcgg cccccgtcgc ctggcggtc tggccatccg 13500
atcgccctatg gatctctccc acaagattgt cgatcgccgtg gggttcgagg aggcccggcc 13560
ggccgtcgct atgggcaccg acatctataa cgccaatccc gtcatgggtg tcgagaacgg 13620
tgatcgcggtt acggggggtt attgccagcc actttgccag cggcggtggcg tctcccgtaa 13680
acaatgcatg caagatgagc ggtggtagtg cgaaatcgta caccgggtcg accttcttcg 13740
cgatctcgat ttggtcacga tgataactat gaatctcgac cagaacctcc atgccgcggt 13800
tgcgggcctt tccagccact tcttcgagga atgcgtaggt atcgtcgatc atgaagcaac 13860
tgctgcccgc tttcttgatc gcgtatccc cggcgctcgag gcggatcgcc gtcacattcg 13920
cctccgaaaa gcgatcgagg atcgtttcga gatagggttg gcctttggcg ctgtggacat 13980
cgatgtcgat ctgctccggt gtgaagggtt tccagagcat ccgctgagta ccatcagcca 14040
gggtcacctt cgaaaacggt aaaccggggc gcggtcgata gatcctcaga aggtcttctt 14100
cggtggcggg atcgggaaat accttatcga acgtcatgaa catgtcggca aattcggacg 14160
ccgaaccctt ggcaatgaag tccgtgaatg cgccggattg cgatgagaca tggttgacga 14220
taagatcggc catgatttcc acggatccc acaaagccc caccctctcc cagtcgccga 14280
ggcgcggtatc gacgatcgtg tgatctgttg gatcgaatcc ggcatcagcg ccatcgatcg 14340
gattgaagaa aggcaagaca tggacgccg cgaacaggcc agcgaacttg ccatcgacca 14400
gttccttcaa ttgcctgaaa ccacctctgg tcaggcggtc aacatagggtg ataaactgca 14460
ctttgttttg cttttcaatt tccagtatgt gtcgtcttac gaggacgagt tgattttctt 14520
tcaactcagtc tgcagagccg cccgcgatga gacggctctc gccagtaat ccttgctcgt 14580
ccatgatcgg gtgagcaacc gagacgatat gcgcgttgat ccgcttgaga tcacgcaaga 14640
tgtcgagggtg aagcgagctg gtttgaaggc tgtcgggtgcg cccgtcgcgc agacgttcca 14700
gggtggcgctc ggaagactgt ttttccatgt gccggacttc gactttccgc tccatgagct 14760
gacgcgcgag attgatgtcc cgggtgataa ggattgtttg tgcgatccgg agattatcga 14820
cggtgagctg gaagagttgt gttagtccgg agaagccgtc atcagagaat ttcaaaccgt 14880
gggcgatctt cttcgtgacc tcgggcagca gacctttctc gacaatatcc ccgatatgtt 14940
cgaggttgat ggcgtagtcg atgatgacga tcgagcgtcg gccttcgtct tccgacagtc 15000
cagtacggcc gagtttcgat aagtagacct tgacctctg ctgtaaccgg tcgacctggc 15060
gctcaagctg cgcaatatcc ttcaatctcg cggcgttgtt ctgttggaaac gcgtccgaca 15120
ctctcaagag cattctttcg atcaggctct caacgccaag cacttcgcgt gcagcactcg 15180
tcagtgtac gactggtgtt gatagctcat ccggatcgag gaatttcggt gtgttgatcag 15240
cctgttcgga cgcggggatg aggaccccca tccaccgtgc aagaaggcgg gaaaacggca 15300
tggccaggag agccaggccg atatttaacg cgagatgcgc gtccacggga agtttgacg 15360

UNL2993.ST25.txt

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-------|
| ctgggaccgg | caacatcgaa | agccagctgg | cctaaatata | ggccactggc | aggatcagca | 15420 |
| ggcagccgat | tgcccggaca | atcagattgc | ctagtgtgac | ccgcctggcc | gccgccgatg | 15480 |
| ctgataacga | cgcgatcacc | ggaggtattg | cgccaccgaa | attggctcca | agaaccagcg | 15540 |
| ctacgacaag | cccgccagag | aggattccgg | tggaggtcaa | cgacaaaatc | agaaccaccg | 15600 |
| cagccaagct | tgaagatgac | gcgaatgcga | tggccgcgga | aaagatcatc | gcgaccggcc | 15660 |
| aggcgttttc | aagcaggccg | ataaacgctg | cgagcgccgg | cgaatggcga | agcggctcgg | 15720 |
| tcgcgttgct | gagtaggtgt | agtgcagca | gcatcagcgc | gataccgagc | aacgctgttc | 15780 |
| cggcgccctg | cctggaggtc | gaaccgcctc | gatagagaat | gatgccgacg | aagagtaggg | 15840 |
| caggggacac | ccattcgatg | cccgttgca | cgatccaggc | ggtgaccgcc | gttccgacat | 15900 |
| tggcgccgag | gaggacgacc | tgcgccatgc | gaggcttgat | aagctctcgt | tccacaaacg | 15960 |
| aggagaccat | cagcgccgtc | gctgtagaac | tctgaagcgc | gactgtggcg | acgaaccctg | 16020 |
| atagaaacga | ccgggcgtg | cttttcgtgc | cggaggcgag | gcccgttcgc | aatctggccc | 16080 |
| caagcgcacg | ggaggctccg | tccttcacct | gggccaggcc | gaacagcagc | aacgcgacgg | 16140 |
| cgccgcagag | atttatgaga | acgattgtcg | attccaagtc | gcgcctctcg | ctaattctgt | 16200 |
| tggaagtaag | ccttgatcag | cgaagcggct | gctcgcaaca | gagatcggcc | agacgggtgc | 16260 |
| cgtcttgatt | tgtctcgaga | gggaagcggg | tctcgtcgca | gaccttgctc | agcttgccgg | 16320 |
| tgatgagggg | gccgggtggc | gagcagggag | gagagctgcc | caccggcatc | ttgcccgcgc | 16380 |
| cgtatcgag | gcaagatgaa | ttccaactgg | tttcgtattg | tggtcgtgcg | gagtagcgct | 16440 |
| gatccgcgcc | ggttttggtg | acggcagttc | gacattgaat | gagtcacac | tcctcctaga | 16500 |
| agcttacgat | tttggtgagg | tgcgaaagtg | agcgatttcg | atcacactaa | caaaggcttc | 16560 |
| cgcttagcta | cccgaagctt | cttgatcccc | aacaatgcgt | aatcgtttgt | aatgtattgt | 16620 |
| tgcgttgcaa | caaaactgtc | accaaacttt | catttgacga | agaacgatta | cgctcatagt | 16680 |
| atgagcgata | tagaccatct | cttggtggaa | gggaagcgtt | ggtgttcaac | tcaactcagg | 16740 |
| accgccaggc | gaaaatcggt | gagcttttgc | gcgatgagca | gtttttggct | atcggcagat | 16800 |
| tgacggagca | cttccagatt | tcggtggcca | ctgcgaggcg | cgacttgagc | gaactccacg | 16860 |
| aggccggact | cttgcgtcga | actcacggcg | gtgcggtcag | cgtcacgcag | gttacacagg | 16920 |
| acaagccgaa | cgctgcccgc | gccgtctgga | atcgggaggc | gaaggcggcc | atagccggag | 16980 |
| tcgttgccgg | tatgatcgtc | gagggtgaca | cggttcttct | ggacgccggg | acaactgcgc | 17040 |
| tggaagttgc | caagaagctc | gctgaccgca | gaaacctcac | cttcattctc | aatgggtctc | 17100 |
| acattgtcga | ggaattgacg | agaggggagg | gcaaaagcat | ctattcgggt | gggggagagt | 17160 |
| ataccgaaac | gaaccgctcc | ttccgcggcc | ctttggcgga | gcagtttatc | cgccagttca | 17220 |

UNL2993.ST25.txt

atgtcgacaa actcattctc aacgcggcgt cgatcgatgt tgatcgcgga ttgatctgta 17280
 cgtcgtcgcc cgtgaacgcg agtgctgcct gcgccatgat cgaagtttcg agccgcgtga 17340
 tcgtcgtcgc ggatcattcg aaattcacia aatcgagcct ctcggtgacg gccaggatcg 17400
 aggatgtcgg cgtgatcgtc accgactctg gaacccgaac catcattgag acaataccgg 17460
 aaaagctgcg gaagaagttc gttgttgcca actaggttcg acggccgcgc gcgaattaaa 17520
 gcctcattca acagagctgg gagggaaaacc acatgcttaa gaccaatcgc aggaatttta 17580
 tgatgggcac cgcggcgata gcggctcgtt caactgccgg tgcgaagttc accttcgcgc 17640
 aagaacgccg ggcgcttcgc ctgggtgtga acggattgcc gaactcgctg gagccgggtca 17700
 atgcaatcag caatgtcggc ccgcgtatcg tcaaccagat attcgacacg ctgatagcgc 17760
 gcgatttttt cgcgaaggga gctcccggca atgccatcga cctcgttccg gcacttgccg 17820
 agagctggga gcgcacgat gagaaatcgg ttcgcttcaa gctgcggcag aaggatcatgt 17880
 tccacgatgg tgttgaactg accgcggacg atgtcgcata caccttttct tccgaacgcc 17940
 tttgggggtcc cgaagcgatc aagaaaatcc cgcttgggaa atcctattcg cttgatttcg 18000
 atgagcccgt ggtcgaggac aaatacacag tcacacttcg cacaagacc ccgagctatc 18060
 tcatcgagac cttcgtcgca tcctggatga gccgcattgt tcccaaagaa tactacaaga 18120
 aactgggagc agtagatttc ggtaacaagc ccgttgggaa agggccgtac aagttcgtgg 18180
 aatttggtgc cggcgaccgt gtggtgctgg aagccaacga cgcctactgg ggtccaaagc 18240
 cgactgcac gaagatcacc taccagatcg tcgcagagcc agccacacgc gtcgcgggtc 18300
 tgatcagcgg tgaatacgat atcatcacta ccctgacgcc ggacgacatt cagctgataa 18360
 atagctatcc agacctcgaa acgcgcggga cgctcatcga aaacttcac atgttcacct 18420
 tcaatatgaa ccaagaagtt ttcaaggata agaagcttcg gcgcgctctt gctctggctg 18480
 tcaaccggcc aatcatggtt gaagcgctct ggaagaaaca agcatctatc ccggccgggt 18540
 tcaatttccc gaactatggg gaaaccttcg atccaaagcg taaggccatg gaatataatg 18600
 tcgaggaggc caagcgtctc gtcaaggaga gcggctacga tggaacgccg atcacctatc 18660
 acacgatggg caactattat gccaacgcca tgcctgcgtt gatgatgatg atcgaaatgt 18720
 ggaagcagat cgggtgtgaa gtggtcatga aaacctacgc accgggtagc ttccccccgg 18780
 acaaccagac ctggatgaga aactgggtcca acggccaatg gatgaccgat gcctacgcca 18840
 cgatcgtccc cgaattcggg ccgaatgggt aggttcaaaa gcgttgggggt tggaaggcgc 18900
 cggccgagtt caacgaatta tgtcagaagg tcacggttct gccgaatggc aaggagcgtc 18960
 tcgacgccta caatcgcatg cgggacattt tcgaagagga ggcgccagcc gtcattctct 19020
 atcagccgta tgacgtttat gccgcgcgca aggatgtcca ctggaagccc gtgagcttcg 19080
 agatgatgga attccgcaac aatctcagct tcggctgaac tcgttaatcg agaaggcggc 19140

UNL2993.ST25.txt

gcgcgcgaga tgtgcgcgtc gccctggagg agcctaagtt gtcaaatcta ctaacagttc 19200
 gcgacctgat cgttcaggtg ccggcgcgcg atatcacaat catcaacggt gtcagttttt 19260
 cactggatgc agggcagacg cttggactcg tcggggagtc gggctgcgga aagagcatga 19320
 catgttacgc aatagccaag gcattgccgc gagggatttc gcagacgggc ggaactattg 19380
 agctggacag tggaccaaag gctgatggca agccggctat tgccatgac tatcaggacc 19440
 cgaccagcag cctcaatccg gttcattcga tcggttatta tctcgagagc agcctttatc 19500
 gccatcaggg tctggagggc aacgatgcac ggctcgaggc catgcgtctt ctcgaacgtg 19560
 tcggtatcga ccgcgccaaa agtcggctgc gatcctatcc tcatgagtac tcgggcggta 19620
 tgaaccagcg cgtcatgatt gcccacgcgc tcgctgcgaa gcccagctg atgatcgccg 19680
 acgagcccac gacagcgtc gatgtcacga cgcaggcgca gatccttcat cttctggagg 19740
 aactcagatc tgaacaggc atggcgcttt tgatcgtgtc gcacgatctc ggcgtgatcg 19800
 cccgcctcgc ggatcgtgcg gcggtcatgt attgcggaaa gatcgtcgaa acggcgcccg 19860
 ttgcggaatt gttggagcgt gcagcgcac cttacgctcg cgccctgatc ggctgcatgc 19920
 caacgatcga tgcggacgac ctggagccgc cagtaccaat cccgggttct gttcctcttc 19980
 tcgataacct gcctgccgga tgttattatc acccagctg tccccgcgcg agcgaacaat 20040
 gttccgtgag ctttcccggg cctgtcaacg tcggcgcggt ccatgacgcg gcctgttacc 20100
 atccggtgag cccatgagtgc gcctcttct tcaggcccgc ggggtcacca aggtctttcg 20160
 cctgaaatcc gggcttttcg taaagccatc ggtacatgtg gcggttaatt caattgatct 20220
 cgaacttgcg ccgcgtgagc gggtaggtgt cgtcggtgaa tctggaagcg ggaaatcgac 20280
 actcggtaga cttctgctcg gcttgacctc caccaccgag ggagaggctt tgttcgaagg 20340
 actcgcgcac acagatcgta gcgcgcgaga ctggctgcag ttccgaaagg agacctccct 20400
 ggttcagcaa aaccgctgt ccgcccctaa tccacaaatg acgatcggcg agcaaatcgc 20460
 tgaagccgtc tgggttcacc gggttgcaa cgcgggcgcg cgtgatcggg cggcaaccat 20520
 gctggaccgg gtcggcctct cgagcgcgat gatgaaccgc tatccacatc agatgtcggg 20580
 agggcagcga caaagagttg ttattgccg agctttgatc ctcgaccca aattggctgt 20640
 attcgatgag gcggtatctg cgctcgacgt ttctgtgcaa gccaggtcg ttgcgttgct 20700
 tcggcagctc tggcaggagc ttgatctggc gtatgtgttc atcaccacg acctgcgcac 20760
 cgttcgccat ctcgttgatc gtattgtcgt gatgtatctt ggccgcgtcg tcgaaaccgg 20820
 cgatatcaaa tctgtctatg cgtggccacg ccatccctat acccgcgcac tgcttgccctc 20880
 cgtccccact atggaccgca cgggccgcaa tattgaacca ccgatcaagg gggaactcga 20940
 cgctggcaag gtaatgactg gctgtgcctt ccggtcacgc tgtccttttg caatcgaaag 21000

UNL2993.ST25.txt

atgtgcgaaa gaaacgccgc tgcttcggcc tgcgggcggg caactggcag cgtgccatag 21060
 agcgggaagag tttccgagat ctatagtcgc gcagactgat ccggcgacaga tgatggaggt 21120
 ggcgcgatga ttagtttcat ccttgacgc ctcgttcgag cgatcattgt catgatgctg 21180
 accgtgacgt ttgtcttcat cattctcagg ttgggtggag atccagctcg ggccatgttg 21240
 ggcgagaacg cgacgccaga ggcgctggca gcattccgaa cagcatgggg cctggacaga 21300
 tccattcctg aacagttcct gatctatctc gccagcgcgc tcagaggcga cttcggggta 21360
 tcggcagccg acggtcgtga ggtattcacc gtcattctccg aacgtatacc caagacattg 21420
 acgctgacga tctcagcatt cgtgctaagc atactcgtcg gtatccccgc gggaatcatc 21480
 gcagcagtcg gccgcgacag tgccgccgac aaatccgtca tggcaggcgc tgttctcggc 21540
 tatagcgtac caaatttctt gtcggactg acgctcatct tcgtgtttgc cgtctggttt 21600
 cgtgtgctgc cgagctcggg aagttccacc tggcagcatg cgatcctgcc cgttgcgaca 21660
 ttcggtcttg tcaatgcggc tgcgattgcg cttcccttcc gcgtgatcga agttctggaa 21720
 cagccctata tcgcagcggc tcgcgccgat ggtattccca agtgggaagt gggtatccgc 21780
 cacgcgctcc cgaacgcggc gatcccgatg gtgaccatgc tgggtttcgt tgcagctggc 21840
 ttgctggggg ggtcggctat cgtagagacc gtattcgcct ggcccgggct tggtagcgg 21900
 tttgttcgag caatcacgct cagcgatctc aatgtcgttc aggcaatgat ctttctcttc 21960
 acggcgttca tggtcacgat caacttgatc gtcgatgttc tctatgcggt gctgaacccg 22020
 aaaatcaggc ttcaaaaaaa tggctaatac gacactctca ttaccaaagc ggcaattcct 22080
 gaaatctgcc cgccgcattc cgatcagtat ctggctatgc ctgatctgga ttgcggttgt 22140
 cgtcttcgtg gacatcacgg cgcaatggtt ggcaccgttc gactatctgc agcagtcacc 22200
 tctggcgaga tttgcgccgc cgggtgcgcc gggacatttg ctgggaactg attatctcgg 22260
 tcgtgacgtg ctcagcaaca ttctggctgc taccagacg tctttgatga tcgctcttgt 22320
 cggttctctc atctgcgcgt tcatcgggac gaccctcgga tttcttgagg cacatttcgg 22380
 tggctgggtc gacaatctca ttatgggctt cgcagacgcg aaggcttccg tgccctttat 22440
 aatcttcgag cttggtgtcc tggcgtttct cgggtcaagc ccgctgatac ttcttatgag 22500
 cgttggtgtc gcatcattcg agcgttatgc gcggctgacg cgtggcctcg tcttgagtgc 22560
 gaaccaggag ggatatgcgg aggcggcgcg catcgtcggc gtaccatcgc ttcggatcta 22620
 tgtgcgccac gtccttccaa acattgctgg tccgctcatc gttcaaatac ccctgaattt 22680
 cccgatatac atcctgctcg aaagcggatt gagcttcctt gggcttgagg tccaaccgcc 22740
 ggaaacgagc cttgggctga tggctgcaga cggcagaaac tatatcgga ttgcctgggtg 22800
 gctcatcgcg ttgcccggcg ttgttattgt tctcaccacc ctgtccatca gcctgctcgg 22860
 cgactacttg cgcgatcgct tcgacgcgcg cctgcgataa acgaaaggaa tgaaaatgaa 22920

UNL2993.ST25.txt

ccctctcaga atgacaccgg agacgatccg cttgggcggc catcgcggcc acagcgccgg 22980
 cgcgcccgaa acacgctcgc ggcgtttcgg aaggcgtttg aattcggcgg acgtaacgtc 23040
 acatgcgaaa ccgatctcgg aattacccgc gatggagaac ttgtgctgat tcacgacaag 23100
 accgtcgacc gcacaacaga cggtcacggc atcgttcacg acatgaccta ttcggagttg 23160
 tcgaaactcg acgcagggag ttggttcagt tcggagtttg tcggagagcg tgtgccgcta 23220
 cttaggagcg cgcttcagct cgcccgtgag cttggcatta tctatcagct tgaactgaag 23280
 atctacgacg cgaacgacgt cttcttccca aagttgagga cgctcatcga tgaattgggc 23340
 tgtgcggatc tcctccagtt ctcttccttc gactacgttc agctgaaggc cgtcaaggaa 23400
 gcaattcccg aggtaccgac cgttggcctg atgcattcgc gcctcatcga tccagccgcc 23460
 cttgcccgtc aggccaatct cgatgccatg aacatcgaga tctaccattt cgccagcggg 23520
 gaagcccgcc aactccacaa cgagggattt gccgcttttt gctacctacc gacgggggtac 23580
 catgaaaaac tcgcgagta cggcgtaggac gtggaaacgc agctcgttca gtgggttcgt 23640
 gaaggtcagt tggatcagtt gtcggagac gacgtcgac aggtcgccag gctcaaggac 23700
 cgtgcaaagt gctgatcggg acacatcgac ctctcacgca ggagaaacag cttcgattgt 23760
 ggaagagatc gcgcgcaagg caggcgacct tgccctcgct catttccgct ccctatcgag 23820
 cctgtcggtc gagaccaagg gacatctcga tcttgtgacg aaggcggaca aggaggtcga 23880
 aacatttctt atcgcgagc tgcgggaggc gtttcccgca gacggcatat ttggagaaga 23940
 agggggcgaa atcaaagcgc gttcaggctg tatctgggtg atcgatccga ttgatggaac 24000
 attcaatttc gtccgcggcg gtcagaactg ggcaatttcc atcgggtctt atgaaaacaa 24060
 gcgtcctaca ttcgggggta tcttcgctcc agtccgaaac ctgatgtttg ttggaggga 24120
 aacggtggag acgaagctca acggcatggc ggtcaagcca cttccgccgc tcgatatgtc 24180
 gcgtgcatcg accgggttca gctaccatcc ttcggcttcg acagcggaca ggctcgaagt 24240
 catccgttat atctcggatg atctcaatat cagcttccgt ttctgctgcg ctgcgacact 24300
 ctgatggtc gaggtggcca tgggcgagac agatggctac gtttcattgg gagactcgac 24360
 gtgggacgtt atggcagcgt tgcctatttt gagcaatctg ggtgttgagg atacgatcga 24420
 ctgggacagg accgacttgt cggccaaact ccggtttgct tgtggcagcc acgacttcct 24480
 ggagaagggtg aagccgttgc tcgataaagt ggcgctggcc gcataatgcg gcgcgcctct 24540
 gacaataacg gtcacagatc gccactggc gacgcggacc aatgcggcgc gatttgcgta 24600
 cgctcgacaa gccttggtta cagcgagatg gaagcgcttc tgatcaccag ccgcgaaact 24660
 ggccgctggg taatcccaa gggctggctg gagggcagga aaaagctt 24708

UNL2993.ST25.txt

<211> 8870

<212> DNA

<213> *Agrobacterium tumefaciens*

<400> 8

| | |
|---|------|
| ttactccatt aggccgttct gcttcatcaa gtcatcatga aacctccaga attcggttgt | 60 |
| gaaacgatcg acgatggttg agggagcgcc aattgctgac cggacttcga ggaatccggc | 120 |
| gtcaatgaag atcgagaacg gtcgcagtac gatcctgtcc gtgaactcga tcgccgcggc | 180 |
| tggatcgata attgcatcc cggcgccctt gcggacgaga cttagcgag tatgcgacag | 240 |
| gctcattca attgacggcc ggcgttgaat accaccaatc gccacctcta cccgcatggc | 300 |
| gaagagagtg ccagtctcct gttttataat acgctcaccg gcaaggctct gtggcgtgac | 360 |
| acggtcaagg ccagcaagtc gatgtcccat cgggacagcg acaacagcgg gaagcgaccg | 420 |
| ggtttcgatt agaaaacctt ggcgtctctg tgggccatcg gcataaccga tgtcggccct | 480 |
| gccggacgca acggcttcca tgaccatgct tgagggcagt cccattaggg agacctggag | 540 |
| at ttggtctg tcacggatga actgagcaag aaaccgcggc aagaggccgt ttgccagagc | 600 |
| aggcattgca gcaatgcgga gcgtccccgc tgcctgcctg ccgatgtcgg cagccaggtt | 660 |
| gcctatatga ttaagcccga cgaacgcccg atcgacctct ttccacagcg tctttgcctc | 720 |
| ctgtgtcggg ataatatggt tcccacgcct ctcgaagagc tgcagttttg tcgcctgttc | 780 |
| aaagtccttg attaggcgac tgatggccgg ctgagtcacc agcattagtt cagccgccgc | 840 |
| cgtcatttgc cccgtcagca tgactgcccg gaacgcctcg acctgcctga gattcataaa | 900 |
| cgcaccataa catctgctta ttcttgcccg gtcattatga at ttgaccga atgcataatcg | 960 |
| aatgtaaagc tcaccctata aatcacaact cttccggggc aaccgggatc agacgtgcgg | 1020 |
| cgaaacggtc gcgcgcaggg aacgctatgg attattctca actcatgggc ttcggccctg | 1080 |
| atggctgggg ctatgatatg ctcagggcga ccgcgatgac gatggctgtg gctttcagcg | 1140 |
| gcttcacaat cggccttgtc ttcggctgtc ttggagccgc cgcaagcttg tcaagctctg | 1200 |
| gagcgcttca ggcagcggca tctggataca cgaccgcgct tcgtggcatc cccgacctac | 1260 |
| ttgtcatcta tctattctac ttcgggtcga gttctgtcat ttccaatgtc gcttcactct | 1320 |
| tcggaagtag tgggttcggt ggcgcttcga cgtttctgat aggtgccctc gccatcggcg | 1380 |
| tggtttcggg tgccctacaa acgcaggtcc tgcgcggtgc ggttctggct ctcaacaagg | 1440 |
| gcgagatcga ggctggtcga gcgtatggca tgggcgcctt gctgttggtc cggcggatcg | 1500 |
| tcctgcctca ggcggcgcgg tacgccctgc ccggtgtcgg caatgtctgg caactggtcc | 1560 |
| tgaagaatc cgccctgatc tcggtgattg gcctcgtcga actgatgcgc caggcccagg | 1620 |

UNL2993.ST25.txt

| | | | | | | |
|------------|-------------|-------------|-------------|-------------|-------------|------|
| ttggctcggg | ctcgacccgc | caaccgttta | gtttctacct | gactgccgcg | gcgctctacc | 1680 |
| tgcttataac | cttcgtctcg | gggcaggtct | tccgtctggc | agagacgcgc | tctatgcgcg | 1740 |
| gactgcagag | gggcgtgtga | tgccgttcga | tcccgcattt | ctctggcaga | ccttcgtcgc | 1800 |
| tttgctttcc | ggcattccgc | ttgactgca | actcgtgtg | ttctcgggtg | cgctcggaac | 1860 |
| ggttctcgct | ttcggcctgg | cgctgatgcg | cgtgtctcgc | ctctgggtgg | ttgatctgcc | 1920 |
| ggcacgcttc | tacattttcg | cgtttcgtgg | cacgccgctt | ctgggttcaga | tctacatcat | 1980 |
| ttactacggg | ctgagccaat | ttcccgatgt | tcggcatagc | ttcatctggc | cattcctgcg | 2040 |
| cgatgcttac | tggtgcgcg | tgccggcact | ggcattgaat | accgctgctt | acacagcaga | 2100 |
| gatcatgcgt | ggagggtttgc | tttcgggtgcc | cgcgggacag | atcgaggctg | cgaaagcgtg | 2160 |
| cggtatgggc | agggtaaagc | tgtttcgccg | gatcgttatt | ccgcaggcga | tacgacagat | 2220 |
| gctgccgggc | tacagcaatg | aagtaatctt | gatggtcaag | tcgacatcgc | tcgcttccac | 2280 |
| catcaccatc | atggaaatta | ccgggatcgc | agccaaactg | atctcggaag | gctaccggac | 2340 |
| agtcgaagtc | ttctcctgtg | ccggggctat | ctaccttatt | ctcaacttca | tcgtcgcgcg | 2400 |
| tcttttcacg | ttgcttgaat | gggctctctg | gcccgaacgg | cgaaacaata | gacttacaac | 2460 |
| agatcctgtc | gaccgaaagg | gcgaactcca | tgcctaacct | agttcgccca | gctgttcagc | 2520 |
| tgaaggacat | caggaagaat | ttcggtaacc | tggagggttct | ccacggcgta | tcgctgagcg | 2580 |
| ccaatgaggg | agaagtgatc | tccattctcg | gctcgtccgg | ctccggcaag | tcgacgcttc | 2640 |
| tgcgatgtgt | caacatgctc | gaggtcccaa | atgccggaag | cgttgcgatc | atgggcgaag | 2700 |
| agatcgctct | cgagcatcgg | gccggccggc | tcgctcgccc | gaaggatttg | aagcagggtca | 2760 |
| acagactccg | cgagcgggcg | gcaatggtct | tccaaggctt | taatctctgg | tcacatcaga | 2820 |
| cgatcctgca | aaatgtcatg | gaggcgccgg | tccacgtcca | ggggcgggat | cgtaaggcgt | 2880 |
| gccgcgacga | agctgagggc | ctgcttgaac | gcgtaggcac | tgcttccaaa | cgcgatgcgt | 2940 |
| atccgtccga | gctatctggc | ggccagcaac | aacgcgctgc | gattgcccgt | gccctggcga | 3000 |
| tgcgggccga | cgtcatgctc | tttgacgagc | ccacatcggc | cctcgatccg | gaattgggtcg | 3060 |
| gggaagttct | caaggtgatg | cgtgacctgg | cggctgaggg | gcgcaccatg | ctgatagtca | 3120 |
| cgcacgaaat | ggattttgcc | cgagatgtct | catcgcgaac | ggtcttcttg | caccagggcg | 3180 |
| tgattgccga | agaaggcccc | tcctccgaaa | tgttcgccca | ccccgcacg | gatcgcttcc | 3240 |
| ggcaattcct | gcggcgcgac | ggcggtagat | cccactgacg | acgaactcgt | cacggctcgc | 3300 |
| gtgtccagaa | aacaactgaa | cagaggtgaa | cttatgaaac | tcaaaaactat | tctgtgcgca | 3360 |
| gcgcttctcc | ttgttgccgg | gcaggcggca | gctcaggaaa | agtcgattac | gatcgcgacg | 3420 |
| gagggcggct | atgcgccctg | gaacttctcc | gggccgggcg | gcaaaactca | cggtttcgag | 3480 |

UNL2993.ST25.txt

| | | | | | | |
|------------|------------|-------------|-------------|------------|-------------|------|
| atcgatctgg | ccaacgctct | ctgcgaaaag | atgaaggcga | aatgccagat | cgctcgctcag | 3540 |
| aactgggatg | gcatcatgcc | ttccctgaca | ggcaaaaaat | acgatgcat | catggccgcg | 3600 |
| atgagcgtca | cgccaaaacg | gcaagaggtg | atcggcttct | ctatccccta | cgctgctggc | 3660 |
| atcaatgggt | ttgccgtgat | gggtgacagc | aagttggccg | aaatgccagg | cttgggtgaa | 3720 |
| acctattctc | tcgatagcca | ggcggacgct | gccaagaagg | ctattgccga | tatttcgagc | 3780 |
| ttcctcaacg | ggacaactgt | tggcgtgcag | ggctctacca | cggcgtcgac | cttcttggac | 3840 |
| aagtatttca | aggggtcggt | cgacatcaag | gaatacaa | cagtcgaaga | gcacaacctc | 3900 |
| gacctgacga | gtggtcggct | ggatgctgtt | ctggcgaaacg | cgaccgtgct | tgccgcagca | 3960 |
| atcgagaagc | cggaaatgaa | gggcgcgaag | ctcgtcgggc | cgctgttctc | cggtggcgag | 4020 |
| ttcggcgtag | tcgccgttgg | tcttcgcaag | gaagataccg | ccctcaaggc | tgatttcgac | 4080 |
| gcggccatca | aggcggcaag | cgaagacggc | acgatcaaaa | cactgtcgct | gaagtggttc | 4140 |
| aaggtggatg | tcacccccca | atgatcgatc | gcttttaggg | atacgacgtt | cgcgccgtat | 4200 |
| cccgccccga | taaataccaa | acaagtccaa | gatgcaatgt | acgaagttga | tatgaccatt | 4260 |
| atcggaggcg | ggctcgttgg | cgcgtccatt | gcctggggtc | tcgcacgctc | aggaacgaag | 4320 |
| cctctcgtcc | tcgacggcgc | ggatctggat | ctgcgcgcat | ctcgcgcaa | tttcgcgctg | 4380 |
| gtctgggttc | agggtaaagg | actgcatgcy | cctcattacg | ctctctggtc | cgacgcgtcc | 4440 |
| gccaggagat | ggccgacgat | ggcaaacacc | ctgctggacg | acagcggcat | cgacgtgggt | 4500 |
| cttcagcaag | acggagcatt | tacattcgct | ctttctgaag | aggaactcga | ggcaaatacgc | 4560 |
| caagatatgg | aaagcattga | gctcgaaaca | aatggctcag | ctccacaatt | tgaagttttg | 4620 |
| gatcgccagc | agacgcttga | ccgcgtgctg | ggatcggcc | ccgaagttgt | aggctcaatc | 4680 |
| tattgcgctg | cggacgggca | cgtgaatgcy | ctccgcctgt | ttcatgcyct | gcatgccgcg | 4740 |
| atggaaaggc | aaggagcgc | ttatcgctccg | aaccatccccg | tgagtcctat | cgagccaacg | 4800 |
| actggaggct | tcattctcaa | gggcgaggcg | ttttctatcc | tgtcacgccg | tatcgtcctt | 4860 |
| gctgccggcc | tcgacaataa | aaggctcgcg | cccatggctg | gcctgtcatg | cccactcaag | 4920 |
| cgcagcaagg | gtcagatcct | cgtaaccgag | aagaccaga | ccgctctacc | ttgcctctcg | 4980 |
| gcaggaatgc | ggcaggccga | tgaggggcggg | atcatgatcg | gcgacagcga | agaaaccgac | 5040 |
| aacaccagaa | tttcatcgtc | accagacatt | agcgcctgcc | tcgccagccg | cgccttgagg | 5100 |
| atattccctg | ccctttcgga | tctgaatgct | gtgcgtagct | ggaccggctt | caggggtcaag | 5160 |
| acggccgacg | gagtacctat | ctacgatcat | tccgagcgcct | atccgggtgc | ctttcttgtc | 5220 |
| gcttgccatt | caggagtcac | cctggccgcc | aatcacgctt | tgatcgtggc | tcagcagatc | 5280 |
| gcggcagggc | agctcgaaga | cgagctttcc | gttttttccg | cccggagggt | ccatgctcaa | 5340 |
| caggctgtat | aggatagaac | acccattca | attcagcttc | gatggcacgg | tcattccaggc | 5400 |

UNL2993.ST25.txt

| | | | | | | |
|------------|------------|------------|------------|-------------|-------------|------|
| cgaacgcggc | gacatgctcg | caaccgcgtt | gctcgcagca | ggggttgatc | gcgttcgcca | 5460 |
| gtccatcgtc | agcggtagcc | ctcgcgcacc | ctactgccta | atgggcgtct | gcttcgagtg | 5520 |
| tctggtcacc | gtggatggcg | ttcaaaaccg | ccaggcttgt | ttgaccgagg | ttgaaaacgg | 5580 |
| ctagacgggt | ctgagccaga | agggcgccac | cacgatcccc | ggacttgcca | gaagcgatga | 5640 |
| gggaacggcg | ctatgaccct | tcgcgaagtt | tcggtagcaa | cggatctgtc | ggatttctac | 5700 |
| gacctgctcg | tgatcggcgc | aggacctgca | ggtagggctg | ccgcagtcga | agcatctgcg | 5760 |
| agtggcgccc | gggtagcggt | actggatgaa | aaccctcgtc | cgggcggaca | gatttatcgc | 5820 |
| gagatcacac | gaaacagtcc | cgacagacga | acctatctcg | gccccgacta | ttggaagggg | 5880 |
| cagccactcg | cagaggcggt | ctgtctcagc | aacgtcgact | acgcatcacg | cgctacgggtg | 5940 |
| tggagcctgg | agacccggga | caagacggcg | gggcaggcgc | gcaatgtcgt | cggcgtgacc | 6000 |
| gtggccggct | cggcgccaat | ggtagaaacc | aacgccgtcg | tgcttgcaac | cggcgcgag | 6060 |
| gagcgtccca | tgctgtccc | cggctggacg | ctgccaggcg | tgatgaccgc | cggcgctgcc | 6120 |
| cagattgcgc | tcaaggcagc | cggagcgatg | ccagcggggc | ctgttgctct | gatcggctgc | 6180 |
| gggccgcttc | tctatctcct | ggcaagtcag | ctcgttgatg | caggtgtgcc | cgatctcacc | 6240 |
| gtcctcgata | ccgctcaatc | tcctttccgg | ggcgcggtgc | tccggcacat | gcctgaattc | 6300 |
| ctgctttcgc | cttacgtcct | gaaaggcatc | ggcctgctat | tgaaggtcag | gcgtcatgca | 6360 |
| caagttgttt | acggcgtcag | atcgatcgcg | attatcgga | gccagcacgc | ggaaagcgtc | 6420 |
| cgctacgccg | tcggacaagg | cgagcggtca | ataccagcca | agtcgggtgct | tctgcatcaa | 6480 |
| ggcgtgatcc | cttcgacaag | cttgtccaat | gcggccggat | gcgagttgca | atggaatgac | 6540 |
| gaacagcgtg | cgtttcagcc | agtcacagat | catgacggtc | ggaccacaaa | ggctggcatt | 6600 |
| tatgtcgccg | gcgacggcgc | ggggatcgca | ggcgcacaa | ccgccgaggt | cagtgggcga | 6660 |
| cttgctgcac | tcgccgcact | tgctgacttg | aagctggtaa | gcactcagac | atcgtcaacg | 6720 |
| tcgatcaaat | cccggcacgc | gcaggcccg | cggttcctgc | gcggaagagc | gtttctggac | 6780 |
| gcactctata | cgccgcggca | aagctttctc | gcgccatcgg | caccgaaac | gatcgtctgc | 6840 |
| cgtgtgaag | aaatcacagt | gcgcaagctt | cgcgaggcaa | tagcgcttgg | accgcccggc | 6900 |
| ccgaaccagt | tgaaaacctt | cgttcgttgc | gggatggggc | agtgccaggg | gcgcctttgt | 6960 |
| gctgcaaccg | tcaccgaaat | catggtcgcg | gaagaacgaa | aagtcagtcc | cgcggtgtg | 7020 |
| ggaacatatc | ggcttcgttc | accggtcaaa | cccgttcgcc | ttgctgaact | tgacacctc | 7080 |
| ccgcacacgg | cccgcgcgct | gaaagcagta | accggcaggg | atcctgtcga | tcacgacact | 7140 |
| accgaaacag | gacatatctt | atgacagaac | gccttatccg | gatgccgaca | ttgcatcgcg | 7200 |
| tcgtcaagca | caacggcatt | gcctatatcg | gcggtatcgt | tgctgacgat | gaaagcctcg | 7260 |

UNL2993.ST25.txt

atatggaggg ccagacccgc caggtgctga ccaagctcga cgcatacttt aaggaggctg 7320
 gtccggcgcg tgccaacctc ctgtccgccg cgatctttat caccgacatg aacgtgaagc 7380
 cgcaaattga tgcggtgtgg aaggaatggt tggccaccgg agcagttgcc tgcccgcgcg 7440
 actatcggcg ttgccgacct tggtagacacg acgctgatcg agcttggtgg ccacggccca 7500
 ttactgaaaa cgggcagcct gttggaagac tgcggaacgc ggtcgttatt ggagatctcc 7560
 atggaatgca ccctggtcgg agcgccgctg caagttggag ccgggcatct cggatgtgag 7620
 atggcccccg cagcggttcag gatcgctggc cttgccacgg cgcttgaaga gctgggcaca 7680
 gggcacggga tgtcggcaaa ctgggtccga agtttgttcc ggcgaatgcc catccggatc 7740
 cttccgtcca tcgccccacg cgtgccgcct gaattggccc tcagaaaatt ggaggaagaa 7800
 tgccaatcga ccctaaactg aacgtagtcc ctttcatcag tgtcgaccac atgatgaaac 7860
 tggtagctgaa ggtaggcatc gacaccttcc tgactgaact cgccgccgag atcgagaagg 7920
 atttccgccg gtggccaatc ttcgataaaa aaccacgcgt tggcagccac tcacaagacg 7980
 gcgttatcga actgatgccg accagcgacg gttcgctcta cggcttcaa tatgtgaacg 8040
 gtcattccgaa gaacacacat caggggctgc aaaccgtgac ggccttcggc gtcctttcgg 8100
 atgttggtaa cggctatccc ctgctgcttt cggaaatgac gatcctgaca gcacttcgca 8160
 cggcgccac atccgctctc gccgccaat atctggctcg tcccaactcg aagacgatgg 8220
 ccattatcgg caatggcgcc cagagcgagt ttcaggctcg tgccttcagg gcaattctcg 8280
 gaattcagaa gctcaggctt ttcgacatcg acacgtcggc caccagaaaa tgcgctcgaa 8340
 acctgaccgg gccgggattt gacatcgctc aatgcggctc cgtcgccgag gctgtcgaag 8400
 gagccgatgt catcacaacc gtcacggccg acaagcagtt cgcaacaatc ctttccgata 8460
 atcatgtcgg gccgggctc catatcaatg cggctcggcg ggactgcccg ggaaagaccg 8520
 aaatcagtat ggaagtgtc ctgcgctccg acattttcgt agaatatccg ccgcagacct 8580
 ggatcgaagg cgatattcag cagcttcac ggacccatcc cgtcaccgag ctttggcagg 8640
 tcatgaccgg tgaaaaaaca ggacgcgtcg gtgaccggca gatcacaatg ttcgacagcg 8700
 tcggatttgc gatcaggat ttttcggcgc ttcgttacgt ccgcgcgaag ataaccgatt 8760
 tcgaaatgtt taccgaactc gacctcctgg ccgatcccga cgagccgcga gacctctatg 8820
 gcatgctgct tcgctgcgag aaaaagctgg agccgacagc cgtcggataa 8870

<210> 9

<211> 2767

<212> DNA

<213> Agrobacterium tumefaciens

UNL2993.ST25.txt

```

<400> 9
gaatttgctc aagaagactt ggagtagtca tccgctgctt tcaacatcca ttgcggtctt 60
ctcactcgga cgcaactacg gcagcttcgg gctcggaaac ggcatggag aacggccccg 120
ctcatggcag ctattttcat ccttagcctc caagactgga ccatccgttc acggtcccat 180
ccaggccatt ccatagagtt atactttcga aaagcgcaac attcattttt acgtcaacaa 240
atgcggattc aaaattgtcg aatattataa ttcgcggcat cctgatccgc acgacacaga 300
agagagtgat gccagcgaca gtggcatgtt aaggtttgaa aaagacatgt tgtataccgg 360
aaactgattg cacgtccgcg ccagagtctt cgcctatcta gactgtttct cccgcagctt 420
ctccttcata ccggccagca ggtaacttag cccactctcg aacacggctt cgggtgttgac 480
cgttccaacc gtggggaagc tttcaagagc ttttgcaagc agggggaact gtgcgagttc 540
tgccatgatg tcggtattgg gcgagtgtt atccatccga tcccgttcgc gctctccctg 600
ttcttcgagc acatagccga ccacatagcg cgtgatgcaa atggcgatcc caaatgcctc 660
ctctgcggaa aatcccgtct cgacatagag ctgcaagacg ctttccacat cggcaaactc 720
ggcgacggaa ggccgtgtac ctgcggttag ccgcgcgcca tcgcgcacgg tgagcaaggt 780
cttgcaatg ctgcgggcat tggccagcgt gaacgtaatc caatcctggc cgggtttggg 840
caggcgatcg cagtgataac gcagcagcat ttcggaattg atggcgtcga gcaattccgc 900
cttgttgcgg aagtgccagt agagcgccgg ctgctggacg cccagccgtt ccgcgagctt 960
gcgggtggac agcttgtcta ttcccacctc gttcaggagc cgcagggcct catcgacaat 1020
gcgatcacgt ccgatagcca tggatagaat ccctcttgac ttatcattga taaggagct 1080
tatcgccgat aaatttatca ctgataaagc tttataggga tgccatacca tgaacaaggc 1140
ccttatcggt attctctcaa ccgttgccct cgacgccatt ggcgaggcc tgatcttccc 1200
gatcctgccg gacatcttgg tcgaggtgac tggcggcggc gacatcgggt tcctctatgg 1260
ggcatgctg ggggtattcg ccgtcatgca atttgtgttc tcgccgatcc ttggtgcgct 1320
cagcgaccgg ttcggtcggc gcccgtctt gtgctttct ttggccggtta ccctgcttga 1380
ttacctgtt atggcatttt ccccgctcgg ctgggtgctc gtcgtcgggc gggccatggc 1440
ggggatcacc agcgaaata tggcgggtggc aagcgcttac atcactgaca tcaccccgac 1500
cgagcagcgc gcgcagcggg ttggcacggg ttgtgccgtg atgagcctgg gctttatcat 1560
cgggtcccgtc attggtggcg tcattggcgc ctggtggctt cgggcacat ttcttggtggc 1620
agccctgttc aatggcctca acctgttcgt cgcgctgttt gttctgccgg aaagccgaaa 1680
ggccggtccg ggcaagtttg cgttcaagga acttaacccg ttggcgccat tgggtgtggct 1740
ttggaatttc aagccgctcc tgccacttgt aaccgtctct gtcgtcttcg gtctggtggc 1800

```

UNL2993.ST25.txt

| | |
|--|------|
| cgccatcccg ggaacgatct ggggtgctcta tggcgccgag cggttcggat gggattcggg | 1860 |
| gcatatgggc ctgtcgctat cggttttcgg cgtcagtggc gccctggcgc aggcctttct | 1920 |
| cgtcgggccg ctctcgccg gctttggtga tttgggcacg ttgatgatcg gcgttggtt | 1980 |
| tgacatgctg gcttatatgc tgatggcctt cgccaaccag agctggatgg gctacgcgg | 2040 |
| agcgccccctg tttgcattgg gcggcggttc catgccggcg ctgcaatctc tggtaaccag | 2100 |
| ccgcgtgagc gatgatcagc agggccagtt gcagggcggtg ctcgccagcc tcatgagcct | 2160 |
| ggcgggtata atagggccgg tgctgaccac cgcagtgttc tttccacca aaagcatctg | 2220 |
| gatcgggacg atctggctgg tgggtgccgc actttatctt ctcgccttgc cgctgttcgc | 2280 |
| aacggtgaaa accccgaagg ctgtggcggc ttaaagactc cggacgtcat gcgcctcgtg | 2340 |
| tttatcttcg ccgccgattt gatgtcatcg cttcgaatca aacaggtagc agcgttgaa | 2400 |
| tggaaatcag aacgccagtt caacggcatc tccaagcgac gcttttcggc cgatcacgat | 2460 |
| tgcgagcgca tattagctat ggctggaagg tcatgaagga tcatggctgc cgcgccgaaa | 2520 |
| gccacggtat ccgcagcaga gacttcgggc aaaagaattg ccggctgaag aactttcgca | 2580 |
| ccctcgaacg gatcggaaac tgaaaaatcg agccaggggc ataattgttc ccggatcatg | 2640 |
| cggggcaggg agccccgac atatattgcc tcaggggcca gaacagcgct gagggaaaat | 2700 |
| cccagtctgg cagtttctgg cccggcccga tttatccacg ttatctacaa gctcttgatt | 2760 |
| gctgttc | 2767 |